SHARP®

OPERATION MANUAL

MODEL

XG-P10XE

LCD PROJECTOR

Notevision
SLIM & COMPACT LCD PROJECTOR

This equipment complies with the requirements of Directives 89/336/EEC and 73/23/EEC as amended by 93/68/EEC.

Dieses Gerät entspricht den Anforderungen der EG-Richtlinien 89/336/EWG und 73/23/EWG mit Änderung 93/68/EWG.

Ce matériel répond aux exigences contenues dans les directives 89/336/CEE et 73/23/CEE modifiées par la directive 93/68/CEE.

Dit apparaat voldoet aan de eisen van de richtlijnen 89/336/EEG en 73/23/EEG, gewijzigd door 93/68/EEG.

Dette udstyr overholder kravene i direktiv nr. 89/336/EEC og 73/23/EEC med tillæg nr. 93/68/EEC.

Quest' apparecchio è conforme ai requisiti delle direttive 89/336/EEC e 73/23/EEC, come emendata dalla direttiva 93/68/EEC.

Η εγκατάσταση αυτή ανταποκρίνεται στις απαιτήσεις των οδηγιών της Ευρωπαϊκής Ενωσης 89/336/ΕΟΚ και 73/23/ΕΟΚ, όπως οι κανονισμοί αυτοί συμπληρώθηκαν από την οδηγία 93/68/ΕΟΚ.

Este equipamento obedece às exigências das directivas 89/336/CEE e 73/23/CEE, na sua versão corrigida pela directiva 93/68/CEE.

Este aparato satisface las exigencias de las Directivas 89/336/CEE y 73/23/CEE, modificadas por medio de la 93/68/CEE.

Denna utrustning uppfyller kraven enligt riktlinjerna 89/336/EEC och 73/23/EEC så som kompletteras av 93/68/EEC.

Dette produktet oppfyller betingelsene i direktivene 89/336/EEC og 73/23/EEC i endringen 93/68/EEC.

Tämä laite täyttää direktiivien 89/336/EEC ja 73/23/EEC vaatimukset, joita on muutettu direktiivillä 93/68/EEC.

SPECIAL NOTE FOR USERS IN THE U.K.

The mains lead of this product is fitted with a non-rewireable (moulded) plug incorporating a 13A fuse. Should the fuse need to be replaced, a BSI or ASTA approved BS 1362 fuse marked ♆ or ⟡ and of the same rating as above, which is also indicated on the pin face of the plug, must be used.
Always refit the fuse cover after replacing the fuse. Never use the plug without the fuse cover fitted.
In the unlikely event of the socket outlet in your home not being compatible with the plug supplied, cut off the mains plug and fit an appropriate type.

DANGER:

The fuse from the cut-off plug should be removed and the cut-off plug destroyed immediately and disposed of in a safe manner.
Under no circumstances should the cut-off plug be inserted elsewhere into a 13A socket outlet, as a serious electric shock may occur.
To fit an appropriate plug to the mains lead, follow the instructions below:

IMPORTANT:

The wires in the mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this product may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
• The wire which is coloured blue must be connected to the plug terminal which is marked N or coloured black.
• The wire which is coloured brown must be connected to the plug terminal which is marked L or coloured red.
Ensure that neither the brown nor the blue wire is connected to the earth terminal in your three-pin plug.
Before replacing the plug cover make sure that:
• If the new fitted plug contains a fuse, its value is the same as that removed from the cut-off plug.
• The cord grip is clamped over the sheath of the mains lead, and not simply over the lead wires.
IF YOU HAVE ANY DOUBT, CONSULT A QUALIFIED ELECTRICIAN.

The supplied CD-ROM contains operation instructions in English, German, French, Swedish, Spanish, Italian, Dutch, Chinese, Korean and Arabic. Carefully read through the operation instructions before operating the LCD projector.

Die mitgelieferte CD-ROM enthält Bedienungsanleitungen in Englisch, Deutsch, Französisch, Schwedisch, Spanisch, Italienisch, Niederländisch, Chinesisch, Koreanisch und Arabisch. Bitte lesen Sie die Bedienungsanleitung vor der Verwendung des LCD-Projektors sorgfältig durch.

Le CD-ROM fourni contient les instructions de fonctionnement en anglais, allemand, français, suédois, espagnol, italien, néerlandais, chinois, coréen et arabe. Veuillez lire attentivement ces instructions avant de faire fonctionner le projecteur LCD.

Den medföljande CD-ROM-skivan innehåller bruksanvisningar på engelska, tyska, franska, svenska, spanska, italienska, holländska, kinesiska, koreanska och arabiska. Läs noga igenom bruksanvisningen innan projektorn tas i bruk.

El CD-ROM suministrado contiene instrucciones de operación en inglés, alemán, francés, sueco, español, italiano, holandés, chino, coreano y árabe. Lea cuidadosamente las instrucciones de operación antes de utilizar el proyector LCD.

Il CD-ROM in dotazione contiene istruzioni per l'uso in inglese, tedesco, francese, svedese, spagnolo, italiano, olandese, cinese, coreano e arabo. Leggere attentamente le istruzioni per l'uso prima di usare il proiettore LCD.

De meegeleverde CD-ROM bevat handleidingen in het Engels, Duits, Frans, Zweeds, Spaans, Italiaans, Nederlands, Chinees, Koreaans en Arabisch. Lees de handleiding zorgvuldig door voor u de LCD projector in gebruik neemt.

附送之CD-ROM光碟中，有用英文、德文、法文、瑞典文、西班牙文、意大利文、荷蘭文、中文、韓國文和阿拉伯文所寫的使用説明書。在操作液晶投影機之前，請務必仔細閱讀整本使用説明書。

제공된 CD-ROM에는 영어, 독일어, 프앙스어, 스웨덴어, 스페인어, 이탈리아어, 덴마크어, 중국어, 한국어, 그리고 아랍어로 작성된 조작 설명서가 포함되어 있습니다. LCD프로젝터를 조작하기 전에 조작 지침을 상세하게 숙지하십시오.

تتاسطوانة CD-ROM المجهّزة تتضمن تعليمات التشغيل لكل من اللغات الانجليزية، الالمانية، الفرنسية، السويدية، الاسبانية، الايطالية، الهولندية، الصينية، الكورية والعربية. قم بعناية بقراءة تعليمات التشغيل قبل تشغيل جهاز العرض الاسقاطي بشاشة الكريستال السائل.

Before using the LCD projector, please read this operation manual carefully.

OPERATION MANUAL ENGLISH

IMPORTANT

For your assistance in reporting the loss or theft of your Colour LCD Projector, please record the Serial Number located on the bottom of the projector and retain this information. Before recycling the packaging, please be sure that you have checked the contents of the carton thoroughly against the list of "Supplied Accessories" on page 10.

Model No.: XG-P10XE

Serial No.:

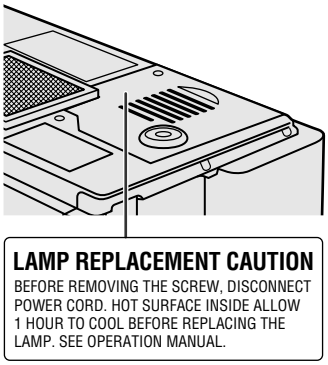
WARNING:
Intense light source. Do not look into the beam or view it directly. Be especially careful that children do not look directly into the beam.

WARNING:
To reduce the risk of fire or electric shock, do not expose this appliance to liquids.

CAUTION:
To reduce the risk of electric shock, do not remove cabinet. No user-serviceable parts are inside. Refer servicing to qualified service personnel.

WARNING:
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

WARNING:
The cooling fan in this projector continues to run for about 90 seconds after the projector is turned off. During normal operation, when turning the power off always use the **POWER OFF** button on the projector or the remote control. Ensure the cooling fan has stopped before disconnecting the power cord.
DURING NORMAL OPERATION, NEVER TURN THE PROJECTOR OFF BY DISCONNECTING THE POWER CORD. FAILURE TO OBSERVE THIS WILL RESULT IN PREMATURE LAMP FAILURE.


LAMP REPLACEMENT CAUTION
BEFORE REMOVING THE SCREW, DISCONNECT POWER CORD. HOT SURFACE INSIDE ALLOW 1 HOUR TO COOL BEFORE REPLACING THE LAMP. SEE OPERATION MANUAL.

Caution Concerning the Lamp Replacement

See "Replacing the Projection Lamp" on pages 48 and 49.

Important Safeguards

ATTENTION: Please read all of these instructions before you operate your LCD Projector for the first time. Save these instructions for future reference.

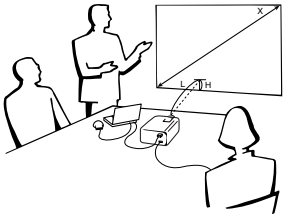
For your own protection and prolonged operation of your LCD Projector, be sure to read the following “Important Safeguards” carefully, before use.
This projector has been engineered and manufactured to ensure your personal safety. But IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARDS. In order not to defeat the safeguards incorporated into this LCD Projector, observe the following basic rules for its installation, use and servicing.

1. Unplug the LCD Projector from the wall outlet before cleaning.
2. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
3. Do not use attachments not recommended by the LCD Projector manufacturer, as they may cause hazards.
4. Do not use the LCD Projector near water; for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, etc. Never spill liquid into the projector.
5. Do not place the LCD Projector on an unstable cart, stand, or table. The LCD Projector may fall, which may cause serious injury to a child or an adult, and/or serious damage to the unit.
6. Wall or Ceiling Mounting—The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
7. LCD Projector equipment and cart combinations should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

8. Slots and openings in the cabinet back and bottom are provided for ventilation. To ensure reliable operation of the LCD Projector and to protect it from overheating, these openings must not be blocked or covered. The openings should never be covered with cloth or other material.
9. This LCD Projector should never be placed near or over a radiator or heating vent. The LCD Projector should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
10. The LCD Projector should be operated only from the type of power source indicated on the back of the projector or in the specifications. If you are not sure of the type of power supplied to your home, consult your LCD Projector dealer or local power company.
11. Do not place the LCD Projector where the cord will be abused by persons walking on it.
12. Follow all warnings and instructions marked on the LCD Projector.
13. To prevent damage to the projector due to lightning and power-line surges, unplug the projector from the power outlet, when not in use.
14. Do not overload wall outlets and extension cords with too many products, because this can result in fire or electric shock.
15. Never push objects of any kind into the LCD Projector through the cabinet slots as they may touch high-voltage points or cause a short circuit. This could result in a fire or electric shock.
16. Do not attempt to service the LCD Projector yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. Unplug the LCD Projector equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the LCD Projector.
    c. If the LCD Projector has been exposed to rain or water.
    d. If the LCD Projector does not operate normally when you follow the operating instructions. Adjust only those controls that are covered by the operating instructions, as improper adjustment of other controls may cause damage and will often require extensive work by a qualified technician to restore the LCD Projector to normal operation.
    e. If the LCD Projector has been dropped or the cabinet has been damaged.
    f. When the LCD Projector exhibits a distinct change in performance—this indicates a need for service.
18. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original parts. Unauthorised substitutions may result in fire, electric shock, or other hazards.
19. This LCD Projector is provided with one of the following types of plugs. If the plug should fail to fit into the power outlet, please contact your electrician.
    Do not defeat the safety purpose of the plug.
    a. Two-wire type mains plug.
    b. Three-wire grounding type mains plug with a grounding terminal.
    This plug will only fit into a grounding type power outlet.

Outstanding Features

1. ADVANCED COMPATIBILITY WITH HIGH-END WORKSTATIONS AND PCS



Compatible with up to 200 Hz vertical refresh rate, Sync on Green and Composite Sync signals for use with a wide variety of high-end PCs and Workstations. (Page 11)

2. FOR USE WITH DTV*

Allows projection of DTV images and 16:9 wide-screen images when connected to a DTV decoder or similar video systems. (Page 13)

3. BNC TERMINALS FOR COMPONENT AND RGB INPUT

Equipped with BNC terminals for connection to a DTV decoder, DVD player and similar video systems for higher quality images. An RCA adaptor can also be used with the BNC terminals. (Page 13)

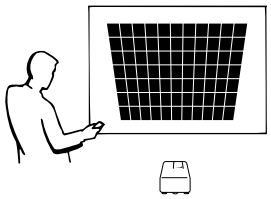
4. 3-D Y/C DIGITAL COMB FILTER

Provides high quality images with minimal dot crawl and cross color noise.

5. 3D DIGITAL UNIFORMITY

Equipped with new 3D digital uniformity technology for a clearer, more uniform image.

6. POWER ZOOM AND FOCUS FUNCTION



Features a 130% power zoom function that allows you to easily adjust the screen size with the remote control. Use these functions when adjusting the projection distance to achieve a 102- to 762-cm (40- to 300-inch) screen size. (Page 20)

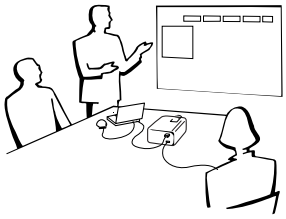
7. ANTI-ALIASING DIGITAL KEYSTONE CORRECTION

Digitally adjusts an image that is projected at an angle while maintaining image quality and brightness. (Page 20)

8. DIGITAL IMAGE SHIFT FUNCTION

Allows digital adjustment of 16:9 wide-screen images up or down for easier viewing. (Page 20)

9. EASY-TO-USE GRAPHICAL USER INTERFACE (GUI)



A multi-colour, icon-based menu system allows for simple image adjustments. (Page 23)

10. USER-FRIENDLY DESIGN

The two-colour design along with an intuitive Graphical User Interface (GUI) makes this projector very easy to set up and adjust.

11. AUTO SYNC TECHNOLOGY FOR AUTOMATIC IMAGE PERFECTION

Automatically makes any necessary adjustments for perfectly synced computer images. (Page 32)

12. INTELLIGENT COMPRESSION AND EXPANSION

By using intelligent resizing technology, this projector can display higher and lower resolution images in detail without compromising quality. (Page 36)

13. XGA RESOLUTION FOR HIGH RESOLUTION PRESENTATIONS

With XGA (1,024 × 768) resolution, this projector can display very detailed presentation information.

14. UXGA COMPATIBLE

UXGA (1,600 × 1,200) resolution images are intelligently resized to 1,024 × 768 for full-screen or default presentations.

15. CUSTOMIZABLE STARTUP SCREEN

Allows you to load a custom startup image (i.e. your company logo) to be displayed while the projector is warming up. (Page 38)

16. BUILT-IN PRESENTATION TOOLS

A variety of helpful presentation utilities are incorporated to enhance presentations. These include “Stamp” functions, “Break Timer”, and “Digital Image Magnification”. (Page 43)

*DTV is the umbrella term used to describe the new digital television system in the united states.

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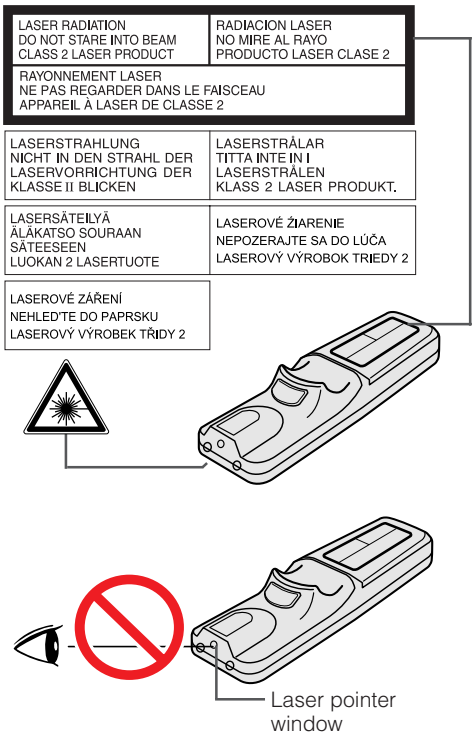
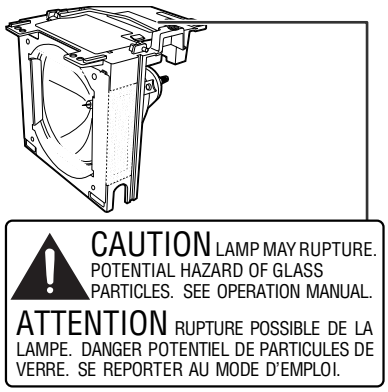
Usage Guidelines



Cautions Concerning the Laser Pointer

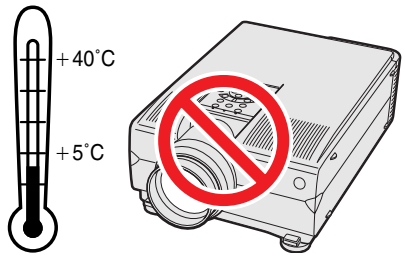
The laser pointer on the remote control emits a laser beam from the laser pointer window. This is a Class II laser which may impair your sight if directed into the eyes. The two marks shown on the left are caution labels for the laser beam.

- Do not look into the laser pointer window or shine the laser beam on yourself or others. (The laser beam used in this product is harmless when directed onto the skin. However, be careful not to project the beam directly into the eyes.)
- Always use the laser pointer at temperatures between +5°C and +40°C.
- Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.


CAUTION LAMP MAY RUPTURE. POTENTIAL HAZARD OF GLASS PARTICLES. SEE OPERATION MANUAL.
ATTENTION RUPTURE POSSIBLE DE LA LAMPE. DANGER POTENTIEL DE PARTICULES DE VERRE. SE REPORTER AU MODE D'EMPLOI.

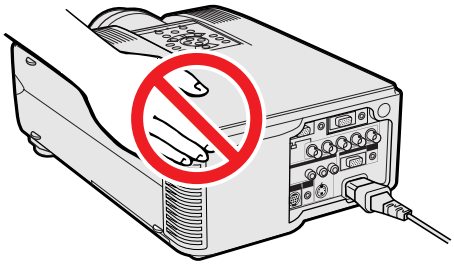
Caution Concerning the Lamp Unit

Potential hazard of glass particles if lamp ruptures. Please have Sharp Authorised LCD Projector Dealer or Service Centre replace lamp if rupture occurs.



Cautions Concerning the Setup of the Projector

For minimal servicing and to maintain high image quality, SHARP recommends that this projector be installed in an area free from humidity, dust and cigarette smoke. If the projector is used in these environments, the lens and filter will need to be cleaned (or the filter replaced) more often, and internal cleaning may become necessary. As long as the projector is regularly cleaned, use in these environments will not reduce the overall operation life of the unit. Internal cleaning should only be performed by a Sharp Authorised LCD Projector Dealer or Service Centre.



Notes on Operation

- The exhaust vent, the lamp cage cover and adjacent areas may be extremely hot during projector operation. To prevent injury, do not touch these areas until they have sufficiently cooled.
- Allow at least 10 cm of space between the cooling fan (exhaust vent) and the nearest wall or obstruction.
- If the cooling fan becomes obstructed, a protection device will automatically turn off the projector lamp. This does not indicate a malfunction. Remove the projector power cord from the wall outlet and wait at least 10 minutes. Then turn on the power by plugging the power cord back in. This will return the projector to the normal operating condition.

Temperature Monitor Function

If the projector starts to overheat due to setup problems or a dirty air filter, "TEMP." and "" will flash in the lower-left corner of the picture. If the temperature continues to rise, the lamp will turn off, the TEMPERATURE WARNING indicator on the projector will flash, and after a 90-second cooling-off period the power will shut off. Refer to "Lamp/Maintenance Indicators" on page 47, for details.

NOTE

- The cooling fan regulates the internal temperature, and its performance is automatically controlled. The sound of the fan may change during projector operation due to changes in the fan speed.

Lamp Monitor Function

When the projector is turned on after the lamp has been used for 900 hours, "LAMP" and "" will flash in the lower-left corner of the picture to advise you to replace the lamp. See pages 48 and 49 for lamp replacement. If the lamp has been used for 1,000 hours, the projector power will automatically turn off and the projector will enter standby mode. Refer to "Lamp/Maintenance Indicators" on page 47, for details.

How to Access the PDF Operation Manuals (for Windows and Macintosh)

PDF operation manuals in several languages are included in the CD-ROM. To utilise these manuals, you need to install Adobe Acrobat Reader on your PC (Windows or Macintosh). If you have not installed Acrobat Reader yet, you can download it from the Internet (http://www.adobe.com) or install it from the CD-ROM.

To Install Acrobat Reader from the CD-ROM

For Windows:

① Insert the CD-ROM in the CD-ROM drive.
② Double click on the "My Computer" icon.
③ Double click on the "CD-ROM" drive.
④ Double click on the "manuals" folder.
⑤ Double click on the "acrobat" folder.
⑥ Double click on the "windows" folder.
⑦ Double click on the desired installation programme and follow the instructions on the screen.

For Macintosh:

① Insert the CD-ROM in the CD-ROM drive.
② Double click on the "CD-ROM" icon.
③ Double click on the "manuals" folder.
④ Double click on the "acrobat" folder.
⑤ Double click on the "mac" folder.
⑥ Double click on the desired installation programme and follow the instructions on the screen.

For other operating systems:

Please download Acrobat Reader from the Internet (http://www.adobe.com).

For other languages:

If you prefer using Acrobat Reader for languages other than those included in the CD-ROM, please download the appropriate version from the Internet.

Accessing the PDF Manuals

For Windows:

① Insert the CD-ROM in the CD-ROM drive.
② Double click on the "My Computer" icon.
③ Double click on the "CD-ROM" drive.
④ Double click on the "manuals" folder.
⑤ Double click on the "xg-p10xe" folder.
⑥ Double click on the language (name of the folder) that you want to view.
⑦ Double click on the "p10" pdf file to access the projector manuals.
Double click on the "saps" pdf file to access the Sharp Advanced Presentation Software manual.
⑧ Double click on the pdf file.

For Macintosh:

① Insert the CD-ROM in the CD-ROM drive.
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⑥ Double click on the "p10" pdf file to access the projector manuals.
Double click on the "saps" pdf file to access the Sharp Advanced Presentation Software manual.
⑦ Double click on the pdf file.

NOTE

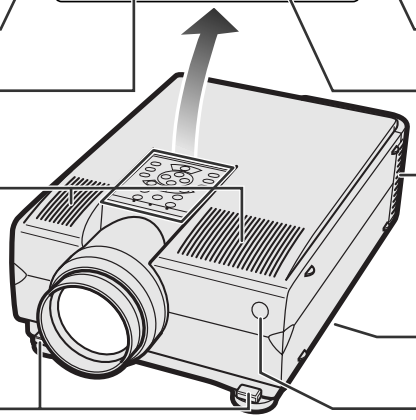
- If the desired pdf file cannot be opened by double clicking the mouse, start Acrobat Reader first, then specify the desired file using the "File", "Open" menu.
- See the "readme.txt" file on the CD-ROM for important information on the CD-ROM not included in this operation manual.

Part Names

Numbers next to the part names refer to the main pages in this manual where the topic is explained.

Projector

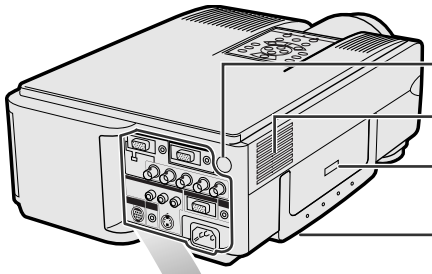
Front and Top View



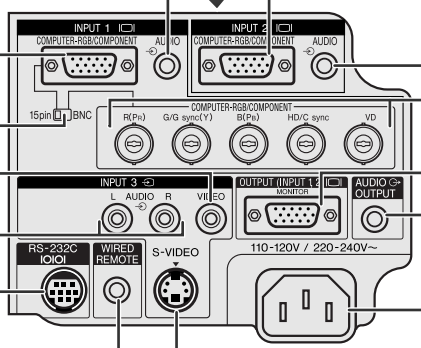
MUTE button 17
POWER indicator 16
POWER buttons (ON/OFF) 17
LENS button 20
INPUT button 17
FREEZE button 33
ENLARGE button 34
BLACK SCREEN button 37
ADJUSTMENT buttons (▲/▼/◄/►) 23
Speakers
Foot releases 19

47 LAMP REPLACEMENT indicator
47 TEMPERATURE WARNING indicator
17 VOLUME buttons (+/−)
23 MENU button
32 AUTO SYNC button
36 RESIZE button
35 GAMMA button
20 UNDO button
23 ENTER button
5 Cooling fan (Exhaust vent)
46 Air filter/Cooling fan (Intake vent)
21 Remote control sensor

Side and Rear View



21 Remote control sensor
46 Cooling fan (Intake vent)
49 Kensington Security Standard connector
50 Carrying handle

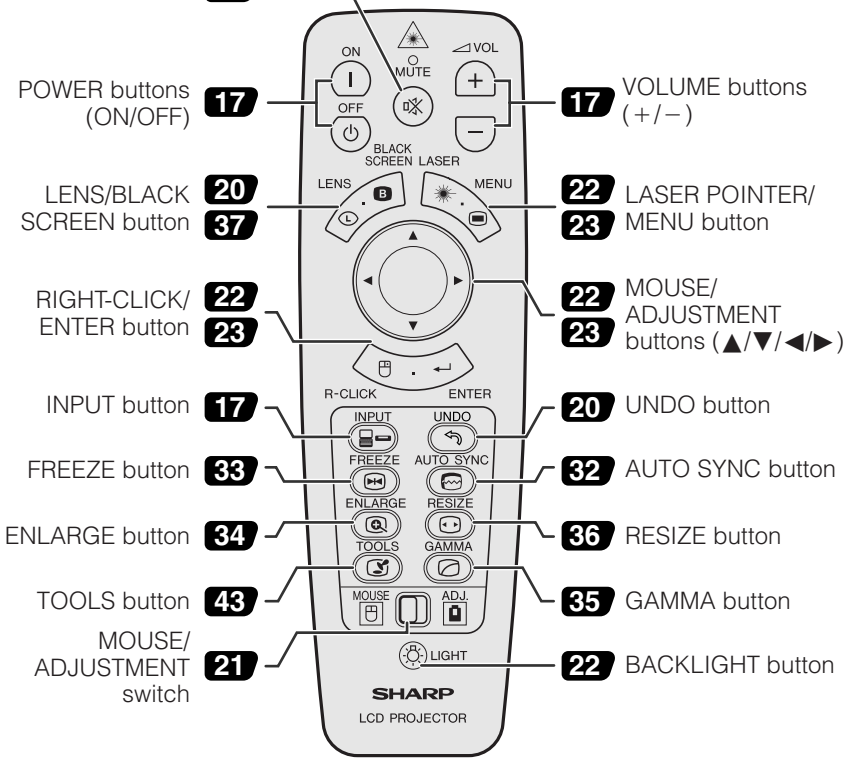


AUDIO INPUT 1 terminal (3.5 mm stereo minijack) 11
INPUT 1 port (HD 15) 11
15 pin/BNC switch 11
VIDEO INPUT 3 terminal (RCA) 13
AUDIO INPUT 3 terminals (RCA) 13
RS-232C port (9-pin Mini DIN) 14
WIRED REMOTE control input terminal 22

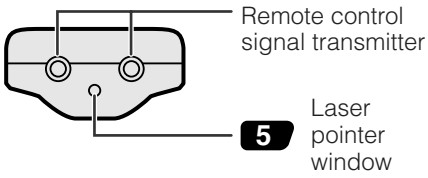
11 INPUT 2 port (HD 15)
11 AUDIO INPUT 2 terminal (3.5 mm stereo minijack)
12 INPUT 1 terminals: BNC (R (PR), G/G sync (Y), B (PB), HD/C sync, VD)
39 OUTPUT port for INPUT 1, 2 (HD 15)
14 AUDIO OUTPUT terminal (3.5 mm stereo minijack)
11 AC socket
13 S-VIDEO INPUT terminal (4-pin Mini DIN)

Remote Control

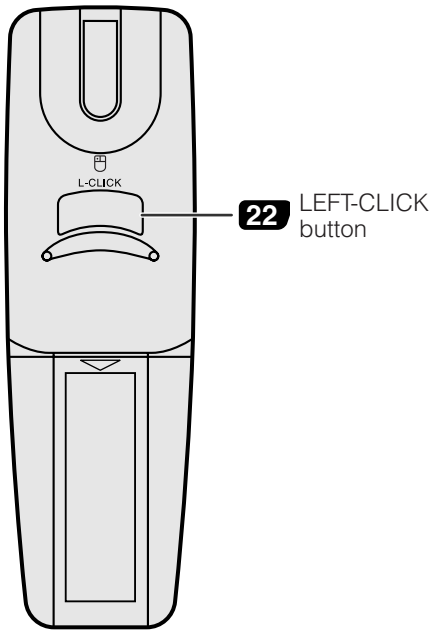
Front View



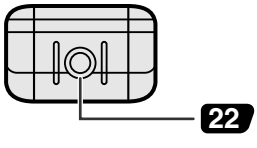
Top View



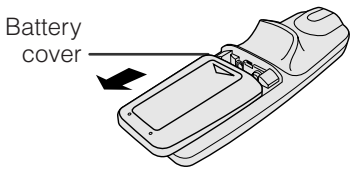
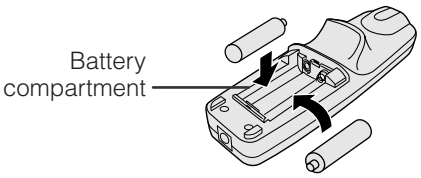
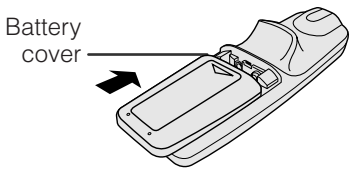
Rear View



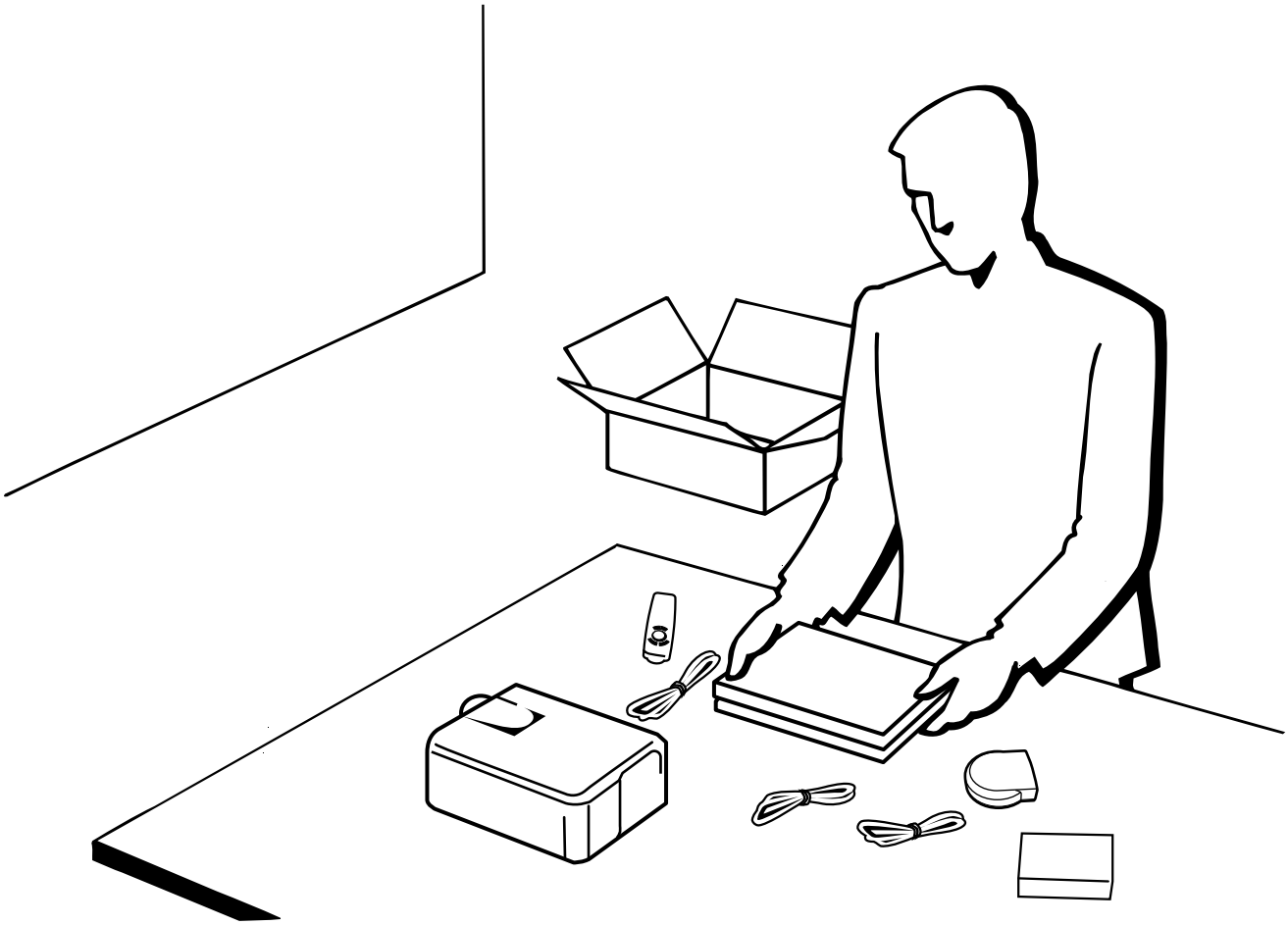
Bottom View



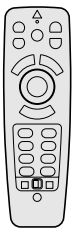
Inserting the batteries

1	2	3
Press in on the arrow mark and slide in the direction of the arrow to remove the battery cover.	**Insert two AA size batteries, making sure their polarities match the + and − marks inside the battery compartment.**	**Insert the side tabs of the battery cover into their slots and press the cover in until it is properly seated.**
		

Setup & Connections



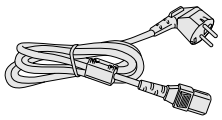
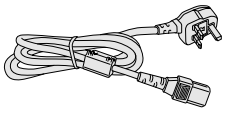
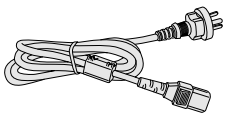
Supplied Accessories



Remote control

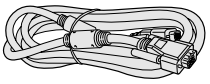
Two AA size batteries

Power cord

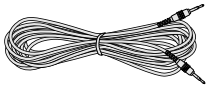
For Europe, Hong Kong and Singapore		For Australia, New Zealand, and Oceania
 (For Europe, except U.K.)	 (For U.K., Hong Kong and Singapore)	

NOTE

- The configuration of wall outlets differs from country to country. Use the power cord that corresponds to the wall outlet in your country.

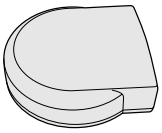


Computer RGB cable

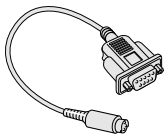


Computer audio cable

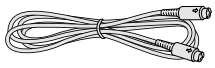
Three BNC-RCA adaptors



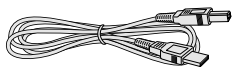
Remote mouse receiver



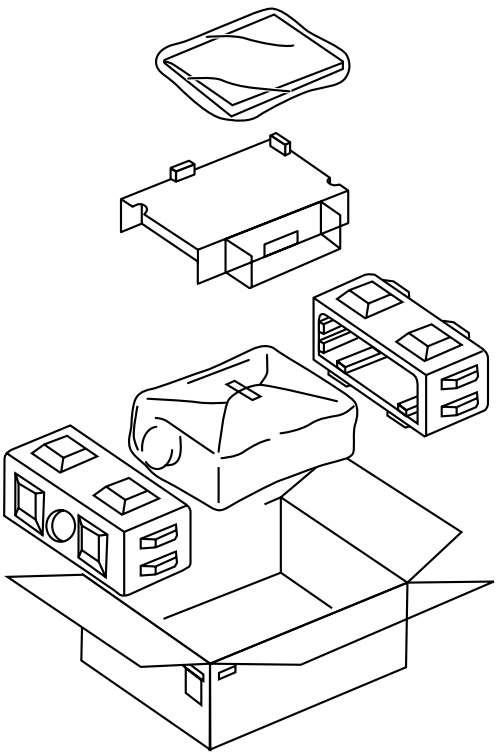
DIN-D-sub RS-232C cable

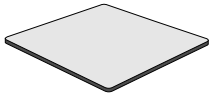


PS/2 mouse control cable



USB mouse control cable





Extra air filter

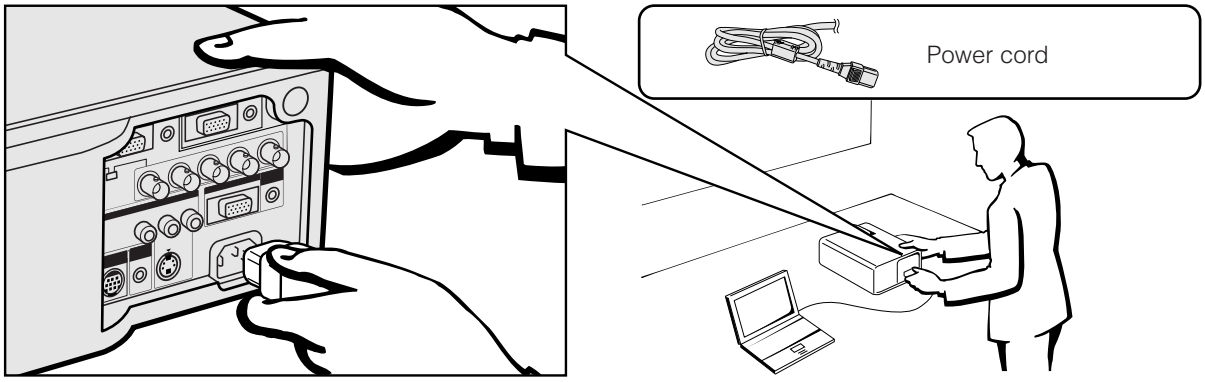
Lens cap

CD-ROM	LCD projector quick references
LCD projector operation manual	Sharp Advanced Presentation Software operation manual

Connecting the Projector

Connecting the Power Cord

Plug the supplied power cord into the AC socket on the back of the projector.



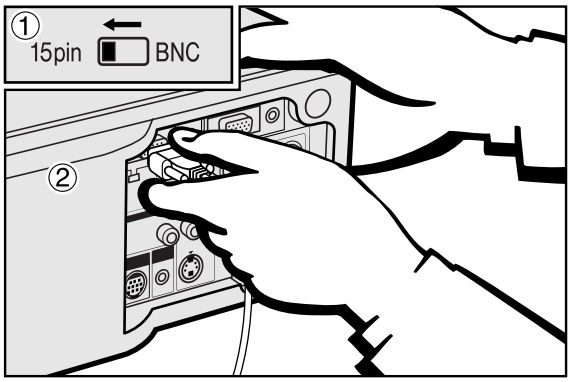
NOTE

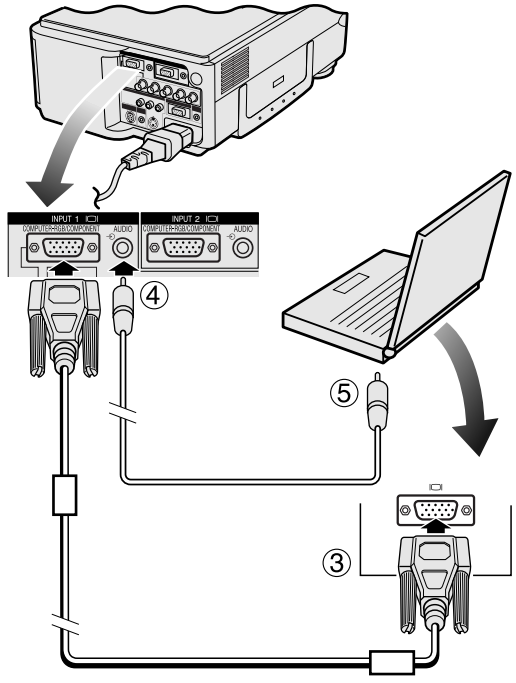
- The configuration of wall outlets differs from country to country. Use the power cord that corresponds to the wall outlet in your country.

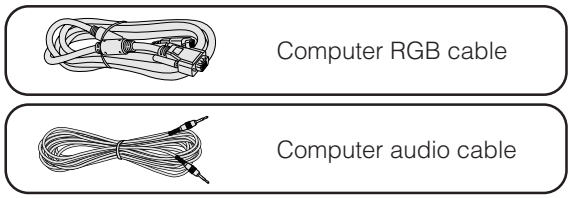
Connecting the Projector to a Computer

You can connect your projector to a computer for projection of full colour computer images.

Connecting a computer using the standard 15-pin Input







① To use the Standard 15-pin connector, slide the 15 pin/BNC switch on the rear terminals to the 15 pin position.
② Connect one end of the supplied computer RGB cable to the COMPUTER-RGB INPUT 1 or 2 port on the projector.
③ Connect the other end to the Monitor output port on the computer. Secure the connectors by tightening the thumb screws.
④ To use the built-in audio system, connect one end of the supplied computer audio cable to the AUDIO INPUT 1 or 2 terminal on the projector.
⑤ Connect the other end to the Audio output terminal on the computer.

⚠ CAUTION

- Before connecting, be sure to turn both the projector and the computer off. After making all connections, turn the projector on first. The computer should always be turned on last.

NOTE

- Please read the computer's operation manual carefully.
- Refer to page 55 "Computer Compatibility Chart" for a list of computer signals compatible with the projector. Use with computer signals other than those listed may cause some of the functions not to work.

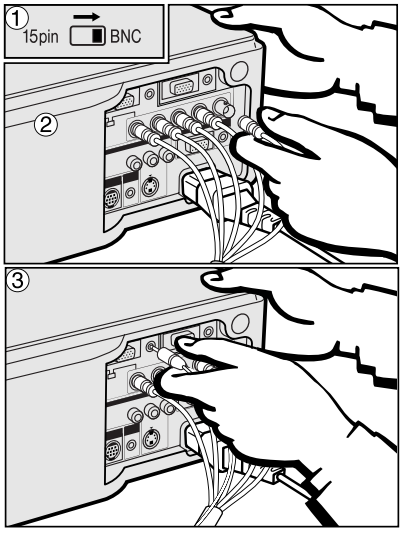
When connecting this projector to a computer, select "Computer/RGB" for "Signal Type" on the GUI menu. (See page 27.)

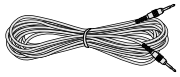
NOTE

- A Macintosh adaptor may be required for use with some Macintosh computers. Contact your nearest Sharp Authorised LCD Projector Dealer or Service Centre.

- This projector uses a 5 BNC computer input to prevent deterioration of image quality.
- Connect the R (P_R), G/G sync (Y), B (P_B), HD/C sync and VD cables to the correct input terminals on the projector and an RGB switcher (sold separately) connected to the computer, or connect a 5 BNC cable (sold separately) directly from the input terminals on the projector to the computer.

Connecting to an external RGB switcher or other compatible computers using the BNC Input (Typically used in larger installations)





Computer audio cable

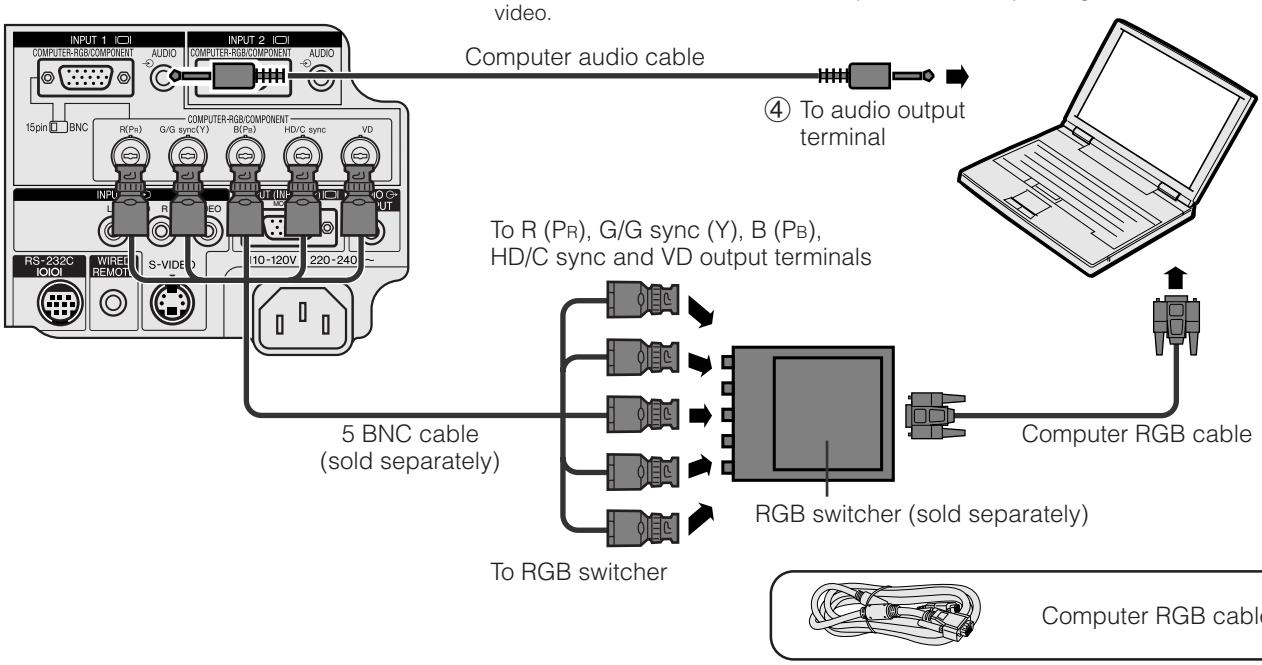
① To use the 5 BNC connectors, slide the 15 pin/BNC switch on the rear terminals to the BNC position.
Connect each BNC connector to the corresponding BNC INPUT 1 terminals on the projector.
② Connect the other end of the 5 BNC cable to the corresponding BNC terminals on the external RGB switcher.
③ To use the built-in audio system, connect one end of the supplied computer audio cable to the AUDIO INPUT 1 terminal on the projector.
④ Connect the other end to the Audio output terminal on the computer or external audio system.

NOTE
- A 3.5 mm minijack to RCA audio cable adaptor may be necessary.

When connecting the projector to a compatible computer other than a PC (VGA/SVGA/XGA/SXGA/UXGA) or Macintosh (i.e. Workstation), a separate cable may be needed. Please contact your dealer for more information.

When connecting this projector to a computer, select “Computer/RGB” for “Signal Type” on the GUI menu. (See page 27.)

NOTE
- Connecting computers other than the recommended types may result in damage to the projector, the computer, or both.
- AUDIO INPUT 1 and 2 can be used input audio corresponding to the INPUT 1 and 2 video.



Computer RGB cable

“Plug and Play” function (when connecting to a 15-pin terminal)

- This projector is compatible with VESA-standard DDC 1/DDC 2B. The projector and a VESA DDC compatible computer will communicate their setting requirements, allowing for quick and easy setup.
- Before using the “Plug and Play” function, be sure to turn on the projector first and the connected computer last.

NOTE
- The DDC, Plug and Play function of this projector operates only when used in conjunction with a VESA DDC compatible computer.

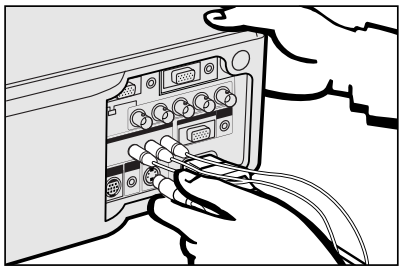
Connecting the Projector to Video Equipment

You can connect your projector to a VCR, laser disc player, DVD player, DTV* decoder and other audiovisual equipment.

CAUTION

- Always turn off the projector while connecting to video equipment, in order to protect both the projector and the equipment being connected.

Connecting a VCR, laser disc player and other audiovisual equipment using the standard video Input

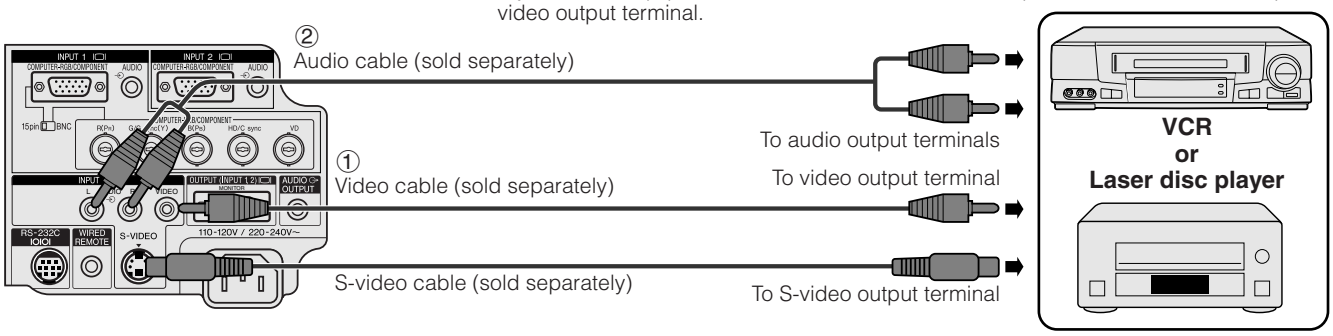


① Connect the yellow RCA connectors to the corresponding yellow VIDEO INPUT 3 terminal on the projector and the Video output terminal on the video source.
② To use the built-in audio system, connect the red and white RCA connectors to the corresponding red and white AUDIO INPUT 3 terminals on the projector and the Audio output terminals on the video source.

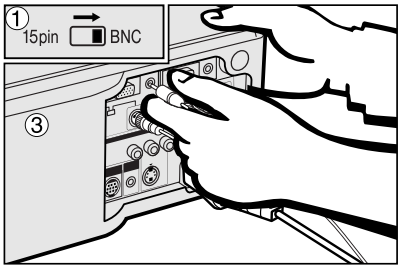
The S-VIDEO INPUT terminal uses a video signal system in which the picture is separated into a colour and a luminance signal to realise a higher-quality image. When cables are connected to both the S-VIDEO INPUT and VIDEO INPUT 3 terminals, images input through the S-VIDEO INPUT terminal have priority over images input through the VIDEO INPUT 3 terminal.

NOTE

- For higher quality video, you may use the S-VIDEO INPUT terminal on the projector. S-video cable is sold separately.
- If your video equipment does not have an S-video output terminal, use the Composite video output terminal.



Connecting a DVD player, DTV decoder and other component video equipment using the 5 BNC Input



① To use the 5 BNC connectors, slide the 15 pin/BNC switch on the rear terminals to the BNC position. Connect each BNC connector to the corresponding BNC INPUT 1 terminals on the projector.

NOTE

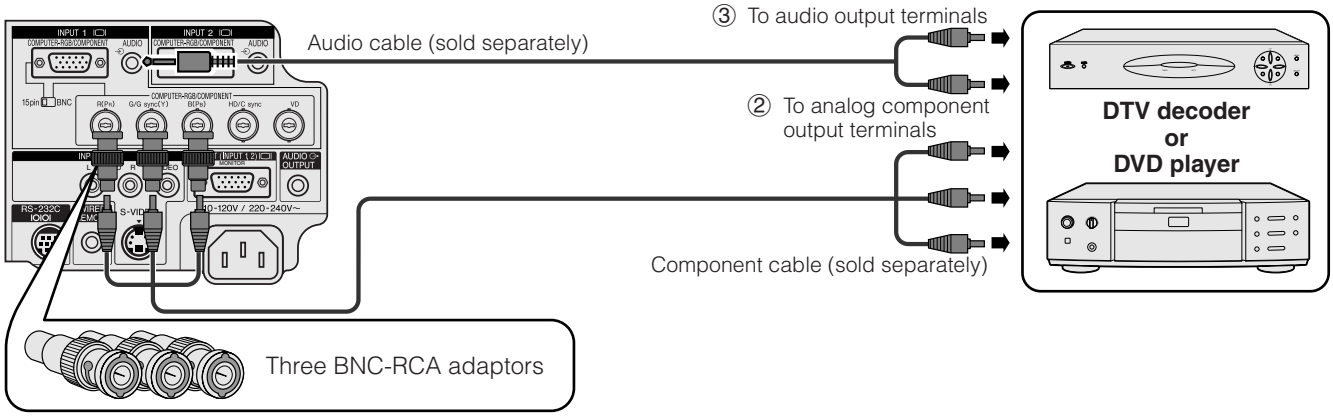
- BNC-RCA adaptors are included for use with RCA type cables and sources.

② Connect the other end of the cable to the corresponding terminals of a DVD player or DTV decoder.
③ To use the built-in audio system, connect one end of an audio cable to the AUDIO INPUT 1 terminal on the projector.
Connect the other end to the Audio output terminal on the video equipment.

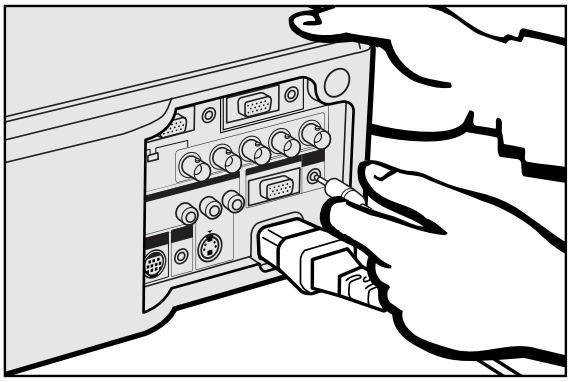
NOTE

- A 3.5 mm minijack to RCA audio cable adaptor may be necessary.

When connecting this projector to a DVD player or a DTV decoder, select “Component” for “Signal Type” on the GUI menu. (See page 27.)



*DTV is the umbrella term used to describe the new digital television system in the united states.



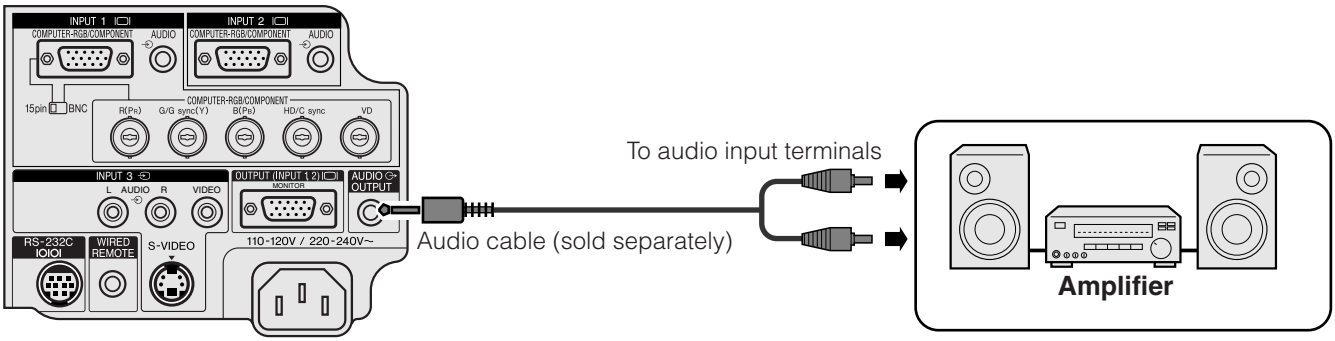
Connecting an amplifier and other audio components

CAUTION

- Always turn off the projector while connecting to audio components, in order to protect both the projector and the components being connected.

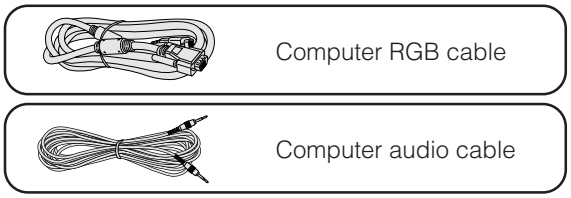
NOTE

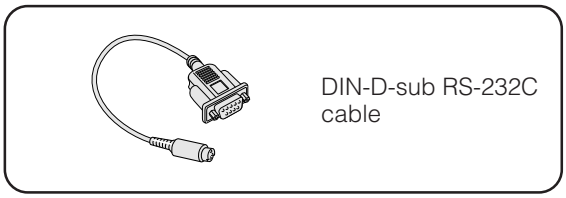
- By using external audio components, the volume can be amplified for better sound.
- The AUDIO OUTPUT terminal allows you to output audio to audio components from the selected AUDIO INPUT 1, 2 or 3 terminals connected to audiovisual equipment.



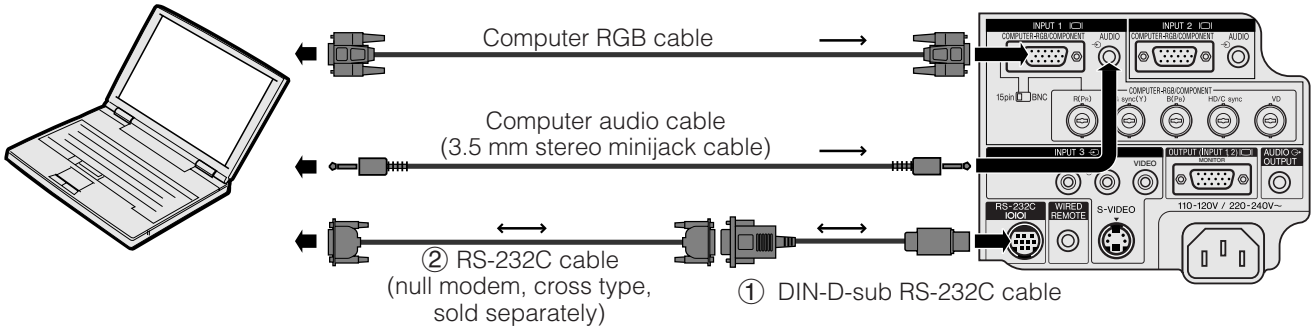
Connecting RS-232C Port

When the RS-232C port on the projector is connected to a computer with an RS-232C cable (null modem, cross type, sold separately), the computer can be used to control the projector and check the status of the projector. See pages 52 and 53 for details.





① Connect the supplied DIN-D-sub RS-232C cable to the RS-232C port on the projector.
② Connect an RS-232C cable (null modem, cross type, sold separately) to the other end of DIN-D-sub RS-232C cable and to the serial port on the computer.



CAUTION

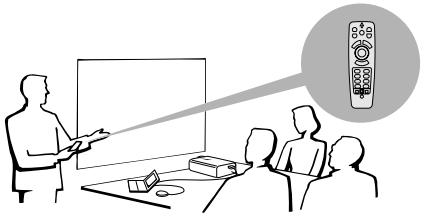
- Do not connect or disconnect an RS-232C cable to or from the computer while it is on. This may damage your computer.

NOTE

- The wireless mouse or RS-232C function may not operate if your computer port is not correctly set up. Please refer to the operation manual of the computer for details on setting up/installing the correct mouse driver.
- The arrows (→, ↔) indicate the direction of the signals.
- A Macintosh adaptor may be required for use with some Macintosh computers. Contact your nearest Sharp Authorised LCD Projector Dealer or Service Centre.

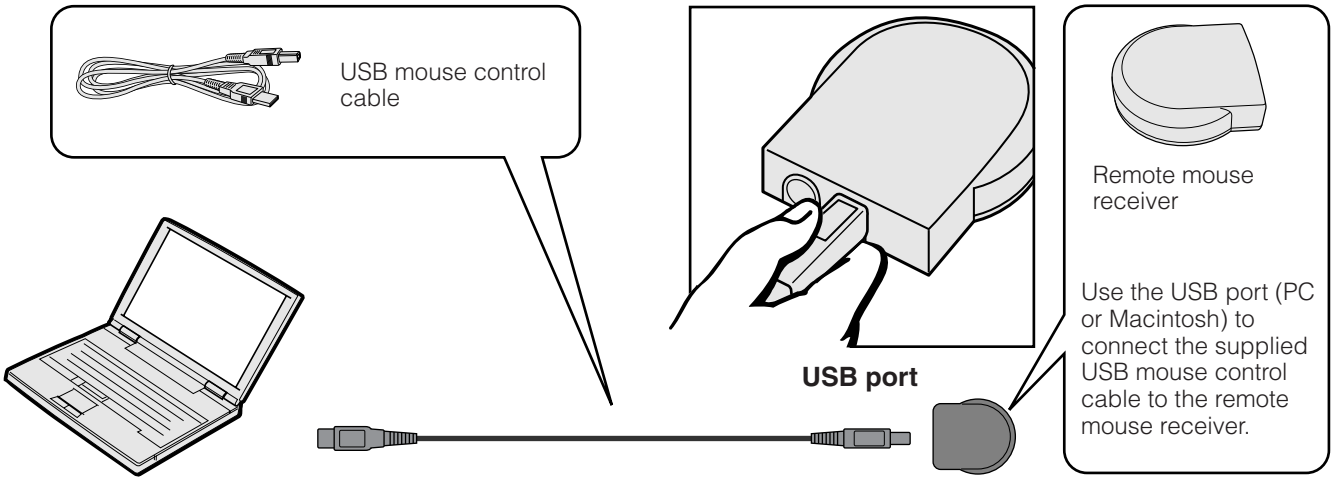
Connecting the Remote Mouse Receiver

You can use the remote control as a remote mouse.



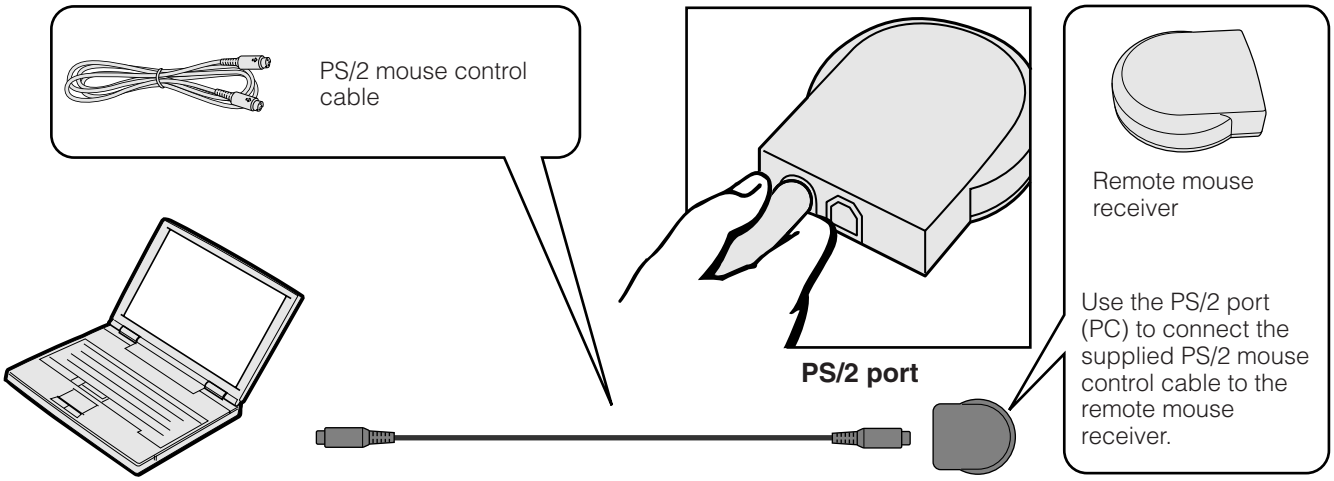
Connecting to the USB port on a PC or Macintosh

① Connect one end of the supplied USB mouse control cable to the corresponding terminal on the computer.
② Connect the other end to the USB port on the remote mouse receiver.


USB mouse control cable
USB port
Remote mouse receiver
Use the USB port (PC or Macintosh) to connect the supplied USB mouse control cable to the remote mouse receiver.

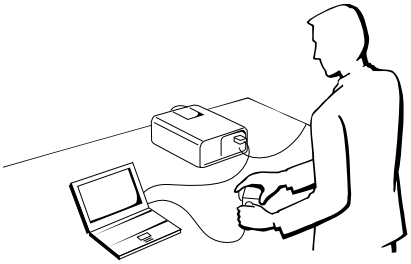
Connecting to the PS/2 port on a PC

① Turn off the power of the PC.
② Connect one end of the supplied PS/2 mouse control cable to the corresponding terminal on the PC.
③ Connect the other end to the PS/2 port on the remote mouse receiver.
④ Turn on the power of the PC.


PS/2 mouse control cable
PS/2 port
Remote mouse receiver
Use the PS/2 port (PC) to connect the supplied PS/2 mouse control cable to the remote mouse receiver.

CAUTION

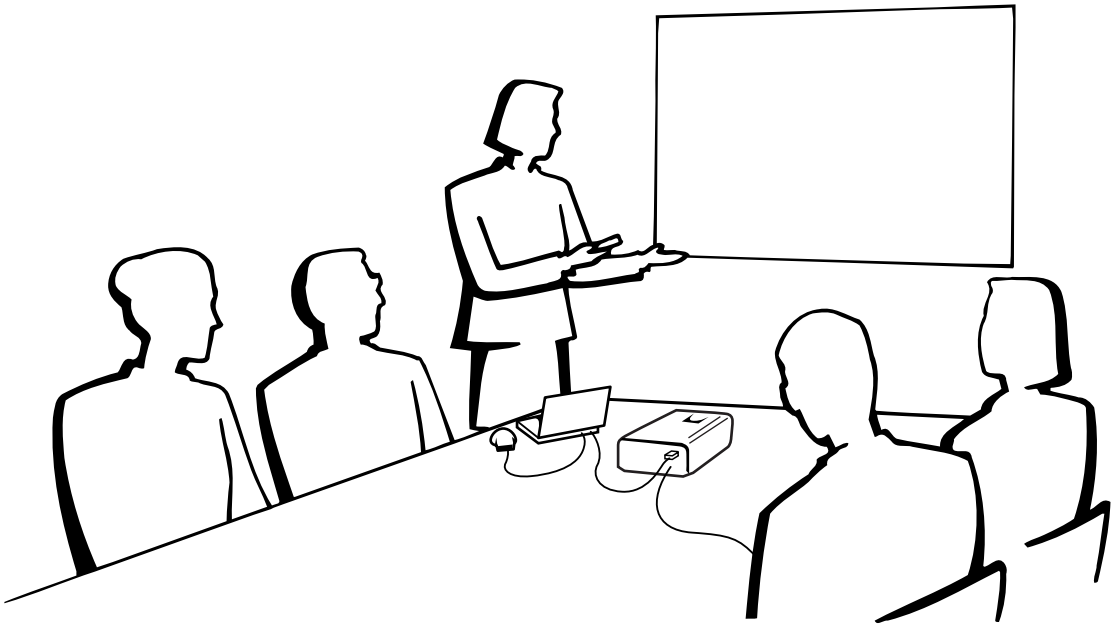
- Do not connect or disconnect the mouse control cables to or from the computer while it is on. This may damage your computer.
- Do not connect both the PS/2 and USB mouse control cables to the remote mouse receiver.



NOTE

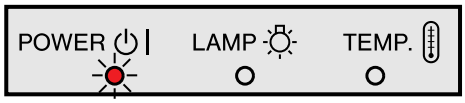
- The wireless mouse functions can be used to operate computers compatible with PS/2 or USB type mouse systems.
- Windows 95 does not support USB mouse driver software.

Operation



Basic Operations

① Make the necessary connections before proceeding.
Connect the power cord to a wall outlet.
The POWER indicator lights up red and the projector enters standby mode.

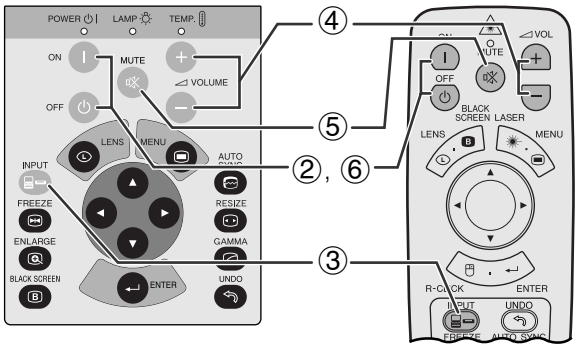


NOTE

- If the bottom filter cover is not securely installed, the POWER indicator flashes.

② Press **Power ON**.

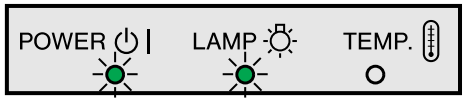
ON



NOTE

- The flashing green LAMP REPLACEMENT indicator shows that the lamp is warming up. Wait until the indicator stops flashing before operating the projector.
- If the power is turned off and then immediately turned on again, it may take a short while before the lamp turns on.
- If the keylock level is set to “Level A” or “Level B”, **Power ON** and **Power OFF** can only be used on the remote control. (See page 41.)
- After the projector is unpacked and turned on for the first time, a slight odour may be emitted from the exhaust vent. This odour will soon disappear with use.

When the power is on, the LAMP REPLACEMENT indicator lights indicating the status of the lamp.
Green: Lamp is ready.
Flashing green: Warming up.
Red: Change the lamp.



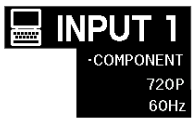
③ Press **INPUT** to select the desired input mode.

INPUT

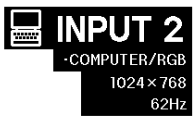
Press **INPUT** again to change the mode.

EXAMPLE

INPUT 1 Mode



INPUT 2 Mode



INPUT 3 (VIDEO) Mode

NOTE

- When no signal is being received, “NO SIGNAL” will be displayed. When a signal that the projector is not preset to receive is being received, “NOT REG.” will be displayed.

④ Press **VOLUME +/–** to adjust the volume.

VOL

⑤ Press **MUTE** to temporarily turn off the sound.

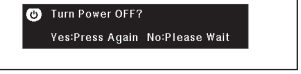
MUTE

Press **MUTE** again to turn the sound back on.

⑥ Press **POWER OFF**.

OFF

Press **POWER OFF** again while the message is displayed.



NOTE

- If you accidentally pressed **POWER OFF** and do not want to turn off the power, wait until the power off screen disappears.
- When **POWER OFF** is pressed twice, the POWER indicator will light up red and the cooling fan will run for about 90 seconds. The projector will then enter standby mode.
- Wait until the cooling fan stops before disconnecting the power cord.
- The power can be turned on again by pressing **POWER ON**. When the power is turned on, the POWER indicator and the LAMP REPLACEMENT indicator light green.
- The POWER indicator flashes if the bottom filter cover is not securely installed.

WARNING:
The cooling fan in this projector continues to run for about 90 seconds after the projector is turned off. During normal operation, when turning the power off always use the **POWER OFF** button on the projector or the remote control. Ensure the cooling fan has stopped before disconnecting the power cord.
DURING NORMAL OPERATION, NEVER TURN THE PROJECTOR OFF BY DISCONNECTING THE POWER CORD. FAILURE TO OBSERVE THIS WILL RESULT IN PREMATURE LAMP FAILURE.

Setting up the Screen

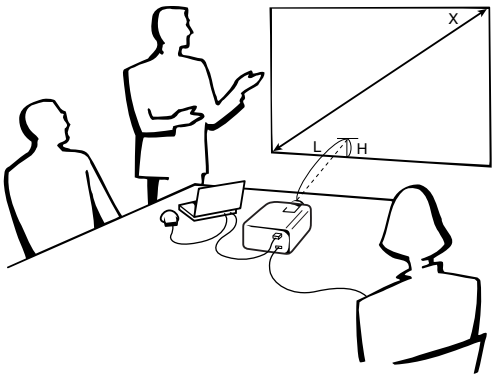
Position the projector perpendicular to the screen with all feet flat and level to achieve an optimal image. Move the projector forward or backward if the edges of the image are distorted.

NOTE

- The projector lens should be centred in the middle of the screen. If the lens centre is not perpendicular to the screen, the image will be distorted, making viewing difficult.
- Position the screen so that it is not in direct sunlight or room light. Light falling directly onto the screen washes out colours, making viewing difficult. Close the curtains and dim the lights when setting up the screen in a sunny or bright room.
- A polarizing screen cannot be used with this projector.

Standard Setup (Front Projection)

Place the projector at the required distance from the screen according to the desired picture size (see the table below).



NOTE

- Optional wide and telephoto lenses from Sharp are available for specialised application. Please see your local Sharp Authorised LCD Projector Dealer for details on the AN-W6EZ and AN-T6EZ lenses.

NORMAL Mode (4:3)

Picture size (diag.) (X)	Projection distance (L)		Distance from the lens centre to the bottom of the image (H)
	Maximum	Minimum	
762 cm (300″)	14.3 m	11.0 m	22.9 cm
508 cm (200″)	9.8 m	7.4 m	15.2 cm
381 cm (150″)	7.2 m	5.6 m	11.4 cm
254 cm (100″)	4.9 m	3.7 m	7.6 cm
213 cm (84″)	4.0 m	3.1 m	6.4 cm
183 cm (72″)	3.4 m	2.6 m	5.5 cm
152 cm (60″)	2.9 m	2.2 m	4.6 cm
102 cm (40″)	1.9 m	1.4 m	3.1 cm

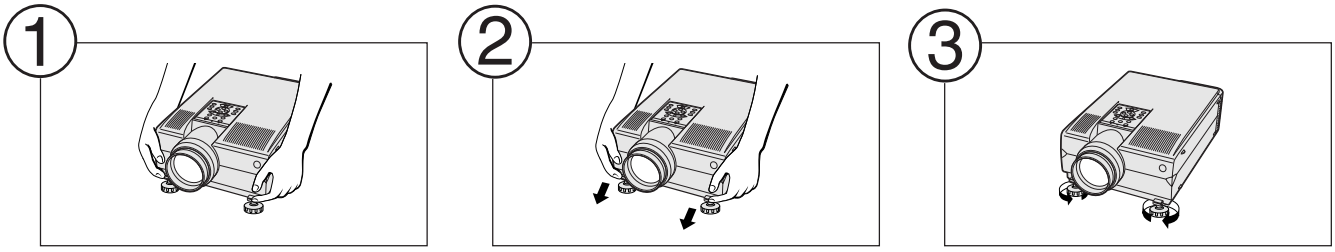
WIDE Mode (16:9)

Picture size (diag.) (X)	Projection distance (L)		Distance from the lens centre to the bottom of the image (H)
	Maximum	Minimum	
762 cm (300″)	15.6 m	12.0 m	– 37.4 cm
508 cm (200″)	10.5 m	8.1 m	– 24.9 cm
381 cm (150″)	7.9 m	6.1 m	– 18.7 cm
338 cm (133″)	7.0 m	5.4 m	– 16.6 cm
269 cm (106″)	5.6 m	4.3 m	– 13.2 cm
254 cm (100″)	5.2 m	4.0 m	– 12.5 cm
234 cm (92″)	4.8 m	3.7 m	– 11.5 cm
213 cm (84″)	4.3 m	3.3 m	– 10.5 cm
183 cm (72″)	3.7 m	2.8 m	– 9.0 cm
152 cm (60″)	3.1 m	2.4 m	– 7.5 cm
102 cm (40″)	2.0 m	1.5 m	– 5.0 cm

NOTE

- Values with a minus (–) sign indicate the distance of the lens centre below the bottom of the screen.

Using the Adjustment Feet



Press foot releases.

Adjust height of projector and remove hands from foot releases.

Rotate feet to make minor changes.

NOTE

- The projector is adjustable up to approximately 5° from the standard position.
- When the height of the projector is adjusted, the image may become distorted (keystoned), depending on the relative positions of the projector and the screen.

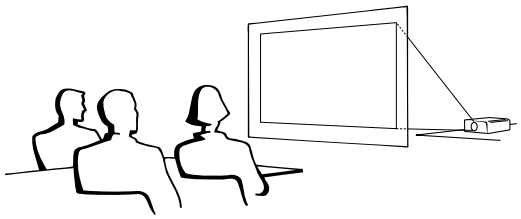
CAUTION

- Do not press the foot releases when the adjustment feet are extended without firmly holding the projector.
- Do not hold the lens when lifting or lowering the projector.
- When lowering the projector, be careful not to get your fingers caught in the area between the adjustment feet and the projector.

Reversed Image Setup

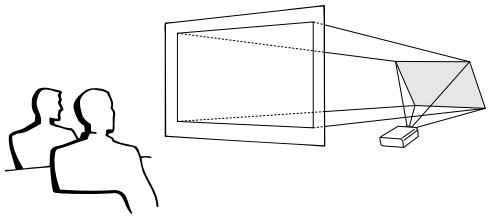
Rear projection

- Place a translucent screen between the projector and the audience.
- Use the projector's menu system to reverse the projected image. (See page 42 for use of this function.)



Projection using a mirror

- When the distance between the projector and screen is not sufficient for normal rear projection, you can use a mirror to reflect the image onto the screen.
- Place a mirror (normal flat type) in front of the lens.
- Project the normal image onto the mirror.
- The image reflected from the mirror is projected onto the translucent screen.



NOTE

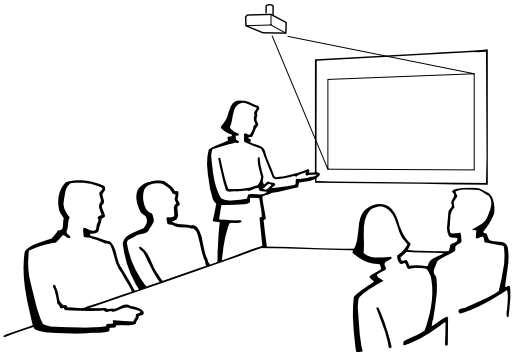
- Optimal image quality can be achieved when the projector is positioned perpendicular to the screen with all feet flat and level.

CAUTION

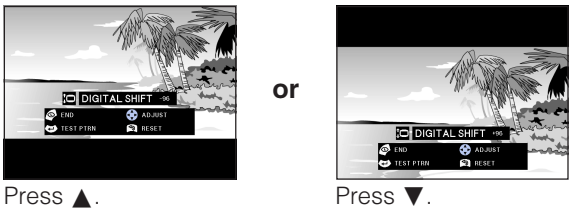
- When using a mirror, be sure to carefully position both the projector and the mirror so the light does not shine into the eyes of the audience.

Ceiling-mount Setup

- It is recommended that you use the optional Sharp ceiling-mount bracket for this installation.
- Before mounting the projector, contact your nearest Sharp Authorised LCD Projector Dealer or Service Centre to obtain the recommended ceiling-mount bracket (sold separately). (AN-NV6T ceiling-mount bracket, AN-TK201/AN-TK202 extension tube for AN-NV6T.)
- When the projector is in the inverted position, use the upper edge of the screen as the base line.
- Use the projector's menu system to select the appropriate projection mode. (See page 42 for use of this function.)



Digital Shift



Press ▲. or Press ▼.

Digital Image Adjustments

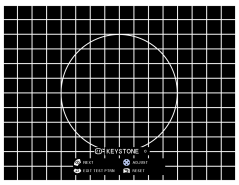
Lens Adjustment

This function can be used to adjust the focus, zoom and keystone settings.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **LENS** to select mode. Each time **LENS** is pressed, the screen changes as shown on the left.

② Press **ENTER** to display test pattern.



③ Press ▲/▼/◀/▶ to make adjustments.

④ a. Press **LENS** until normal screen appears.
b. To reset the KEYSTONE setting, press **UNDO**.

NOTE

- Straight lines and the edges of the displayed image may appear jagged, when adjusting the KEYSTONE setting.
- Do not touch the lens when adjusting the focus or zoom.

Digital Shift

When a WIDE or NORMAL (WIDE) image is projected, this function can be used to shift the image up or down.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **LENS** to select "DIGITAL SHIFT" as shown on the near left.

② Press **ENTER** to display test pattern.

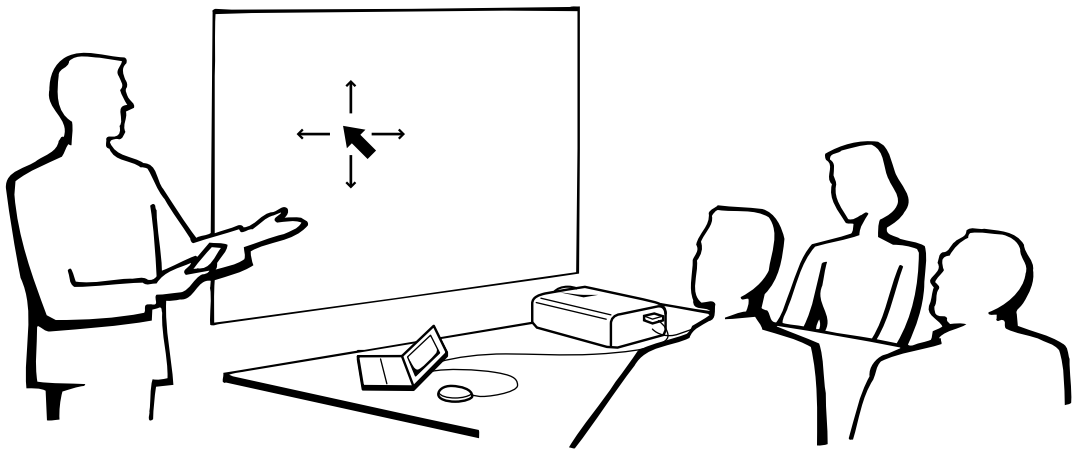
③ Press ▲/▼/◀/▶ to make adjustments.

④ a. Press **LENS** until normal screen appears.
b. To reset the DIGITAL SHIFT setting, press **UNDO**.

NOTE

- This function only works with WIDE and NORMAL (WIDE) picture display modes during video or DTV input. (See page 36 for details.) The DIGITAL SHIFT screen is not displayed when projecting images other than WIDE or NORMAL (WIDE).

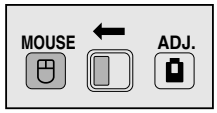
Operating the Wireless Mouse from the Remote Control



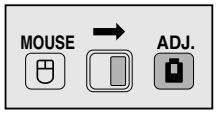
Using the Remote Control as a Wireless Mouse

The remote control has the following three functions:
- Projector control
- Wireless mouse
- Laser pointer

MOUSE/ADJUSTMENT switch (Remote control)



Wireless mouse
Laser pointer



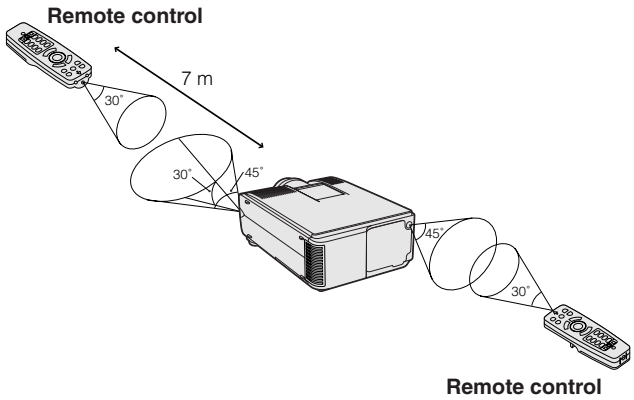
Projector control

Remote Control/Mouse Receiver Positioning

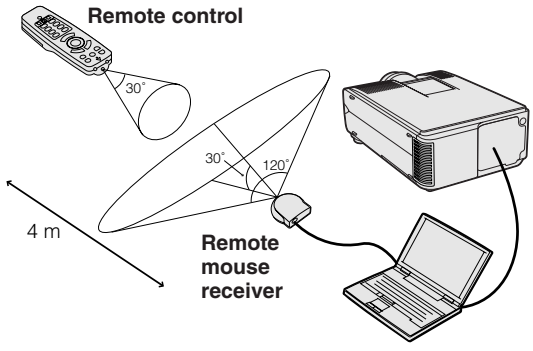
- The remote control can be used to control the projector within the ranges shown below.
- The remote mouse receiver can be used with the remote control to control the mouse functions of a connected computer within the ranges shown below.

NOTE
- The signal from the remote control can be reflected off a screen for easy operation. However, the effective distance of the signal may differ due to the screen material.

Controlling the Projector



Using the Wireless Mouse

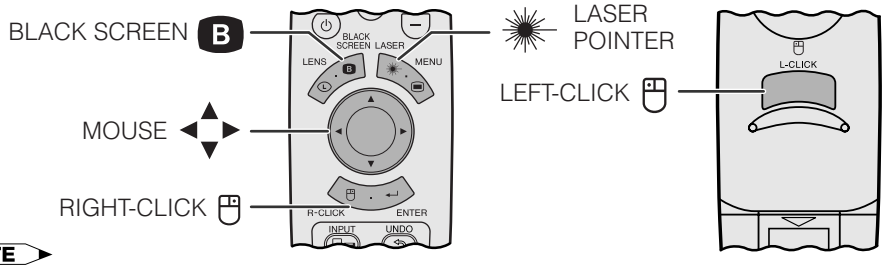


Use as a Wireless Mouse

Be sure the supplied remote mouse receiver is connected to your computer.

Slide the **MOUSE/ADJUSTMENT** switch to MOUSE.

Effective buttons in MOUSE mode



NOTE

- The wireless mouse may not operate correctly if your computer serial port is not correctly set up. Refer to the computer's operation manual for details of setting up/installing the mouse driver.
- For one-button mouse systems, use either the **LEFT-CLICK** or **RIGHT-CLICK** button.

LIGHT

Using the remote control in a dark room

Press **BACKLIGHT**, and the buttons will light up. Green lights refer to mouse operations, and red lights to projector adjustments.

Button name	Position of MOUSE/ADJUSTMENT switch	
	MOUSE ⟷ *ADJ.*	
LASER POINTER/MENU	LASER POINTER (GREEN)	MENU (RED)
BLACK SCREEN/LENS	BLACK SCREEN (GREEN)	LENS (RED)
RIGHT-CLICK/ENTER	RIGHT-CLICK (GREEN)	ENTER (RED)
MOUSE/ADJUSTMENT	MOUSE (NOT LIT)	ADJUSTMENT (NOT LIT)
LEFT-CLICK	ON (NOT LIT)	—
POWER ON/OFF	ON (RED)	
VOLUME +/–		
MUTE		

Button name	Position of MOUSE/ADJUSTMENT switch
	MOUSE ⟷ *ADJ.*
INPUT	ON (RED)
UNDO	
FREEZE	
AUTO SYNC	
ENLARGE	
RESIZE	
TOOLS	
GAMMA	

Use as a Laser Pointer

1. Slide the **MOUSE/ADJUSTMENT** switch to MOUSE.

2. LASER

   Press **LASER POINTER (✷)** to activate the laser pointer.
   When the button is released, the light automatically goes off.

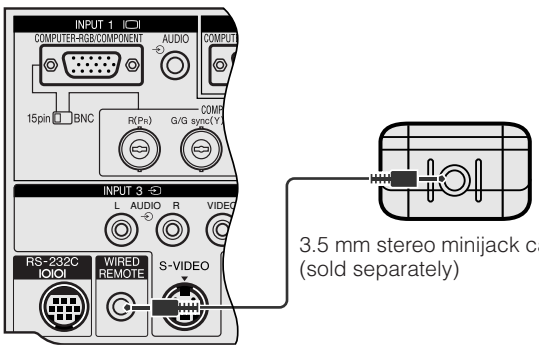
NOTE

- For safety, the laser pointer automatically goes off after 1 minute of continuous use. To turn it on, release **LASER POINTER** (✷) and press again.

⚠ CAUTION

- Do not look into the laser pointer window or shine the laser beam on yourself or others. (The laser beam used in this product is harmless when directed onto the skin. However, be careful not to project the beam directly into the eyes.)

Wired Remote Control



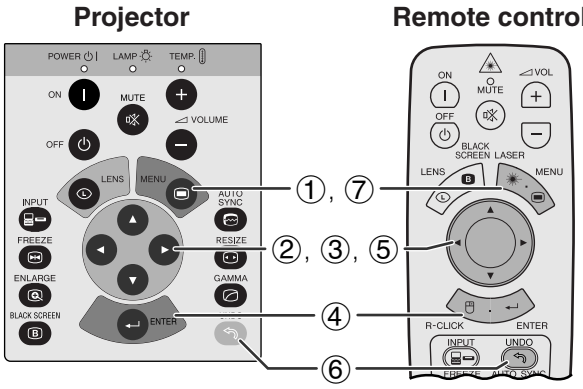
3.5 mm stereo minijack cable (sold separately)

When the remote control cannot be used due to the range or positioning of the projector (rear projection, etc.), connect a 3.5 mm stereo minijack cable (sold separately) from the wired remote control input on the bottom of the remote control to the WIRED REMOTE control input terminal on the rear of the projector.

NOTE

- The laser pointer and wireless mouse functions can still be operated with the wired remote control.

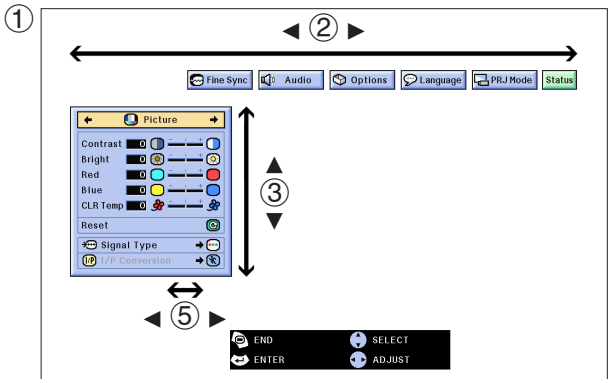
Using the GUI (Graphical User Interface) Menu Screens

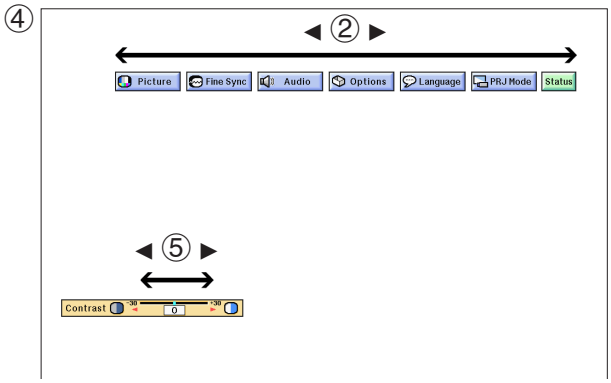


This projector has two sets of menu screens (INPUT 1 or 2 and INPUT 3) that allow you to adjust the image and various projector settings. These menu screens can be operated from the projector or the remote control with the following buttons.

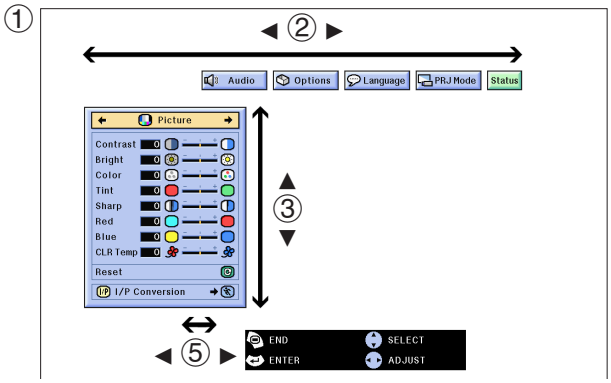
(GUI) On-screen Display

INPUT 1 or 2 (COMPUTER/RGB) mode





INPUT 3 (VIDEO) mode



(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU** to display the INPUT 1, 2 or 3 mode menu bar.

② Press ◀/▶ to select an adjustment menu on the menu bar.

③ Press ▲/▼ to select a specific adjustment item.

④ To display a single adjustment item, press **ENTER** after selecting the item. Only the menu bar and the selected adjustment item will appear.

⑤ Press ◀/▶ to adjust the item.

⑥ Press **UNDO** to return to the previous screen.

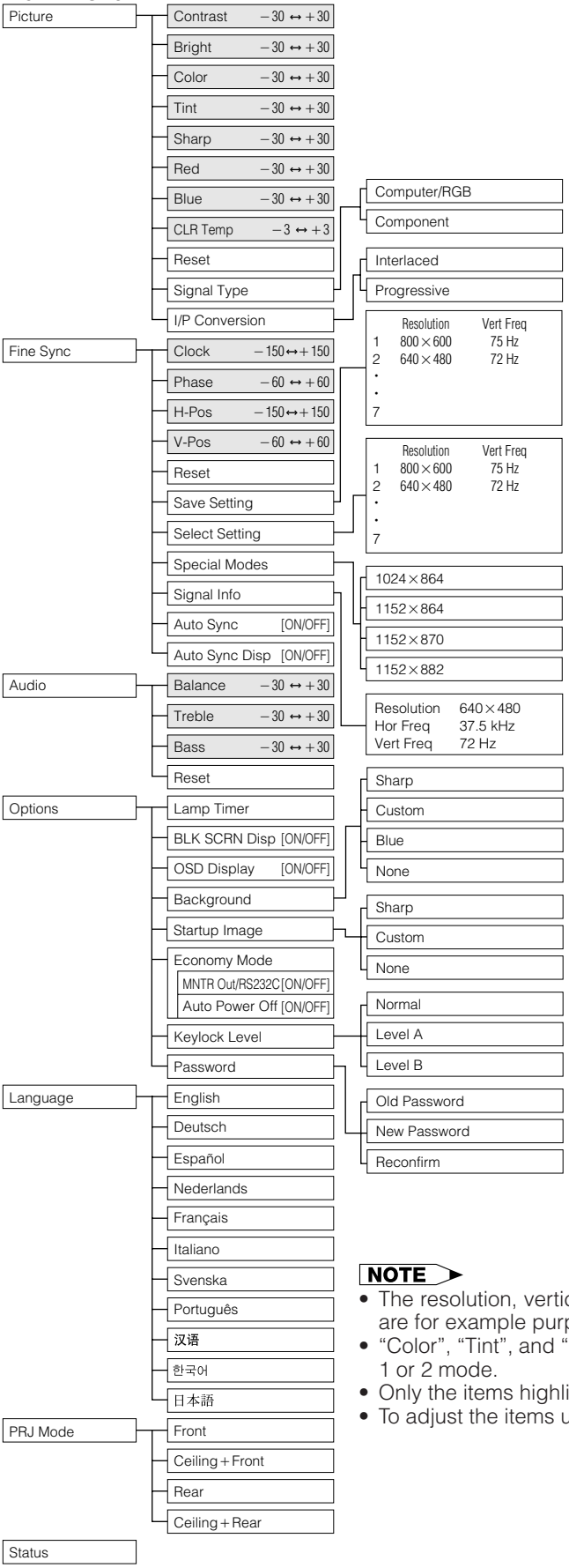
⑦ Press **MENU** to exit from the GUI.

NOTE

- For details on items on the menu screen, see the tree charts on the next page.

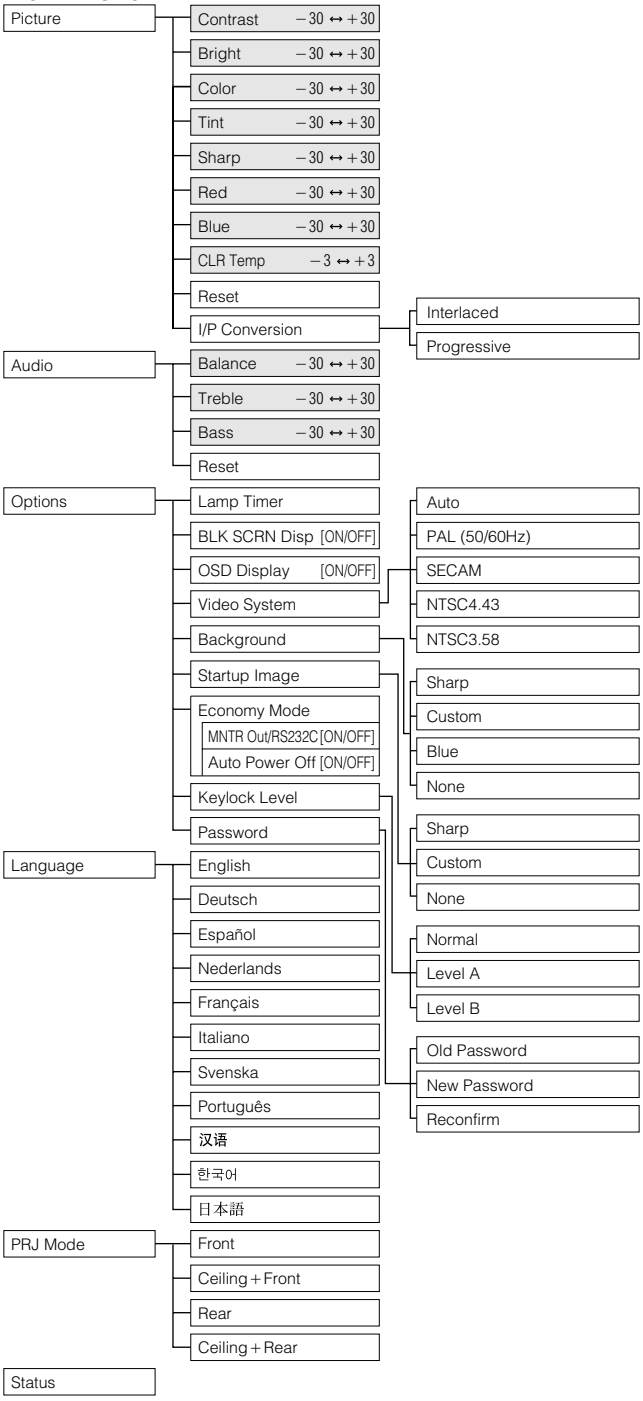
Items on the INPUT 1 or INPUT 2 Mode Menu Bar

Main menu



Items on the INPUT 3 (VIDEO) Mode Menu Bar

Main menu

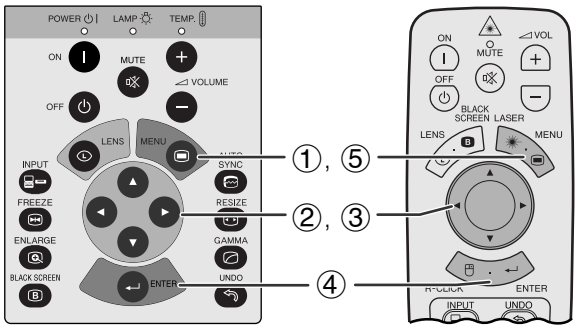


NOTE

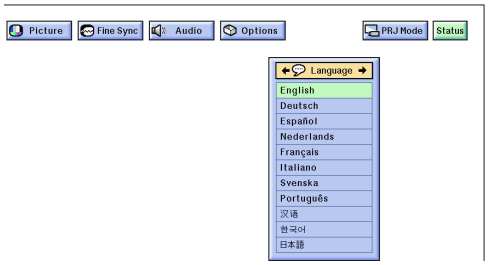
- The resolution, vertical frequency and horizontal frequency figures displayed above are for example purposes only.
- “Color”, “Tint”, and “Sharp” appear only when Component input is selected in INPUT 1 or 2 mode.
- Only the items highlighted in the tree charts above can be adjusted.
- To adjust the items under the sub menu, press ▶ after selecting the sub menu.

Selecting the On-screen Display Language

Projector **Remote control**



(GUI) On-screen Display



English is the preset language for the On-screen Display. The language can be set to English, German, Spanish, Dutch, French, Italian, Swedish, Portuguese, Chinese, Korean or Japanese.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select “Language”.

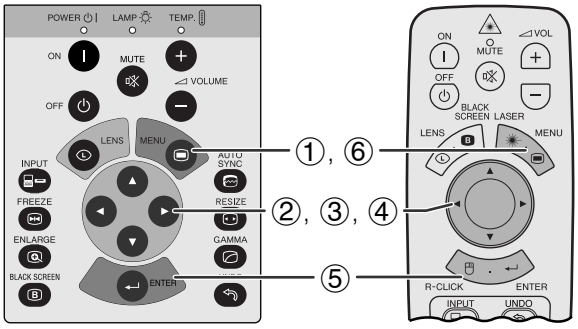
③ Press ▲/▼ to select the desired language .

④ Press **ENTER** to save the setting. The On-screen Display is now programmed to display in the language selected.

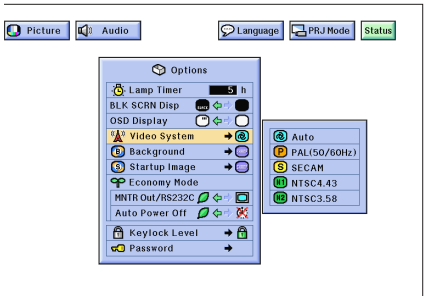
⑤ To exit from the GUI, press **MENU**.

Selecting the Video Input System Mode (INPUT 3 (VIDEO) mode only)

Projector **Remote control**



(GUI) On-screen Display



The video input system mode is preset to “Auto”; however, it can be changed to a specific system mode, if the selected system mode is not compatible with the connected audiovisual equipment.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select “Options”.

③ Press ▲/▼ to select “Video System”, and then press ▶.

④ Press ▲/▼ to select the desired video system mode.

⑤ Press **ENTER** to save the setting.

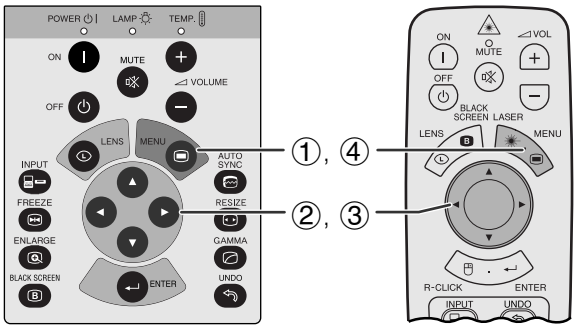
⑥ To exit from the GUI, press **MENU**.

NOTE

- When the system mode is set to “Auto”, you may not receive a clear picture due to signal differences. Should this occur, switch to the video system of the source signal.

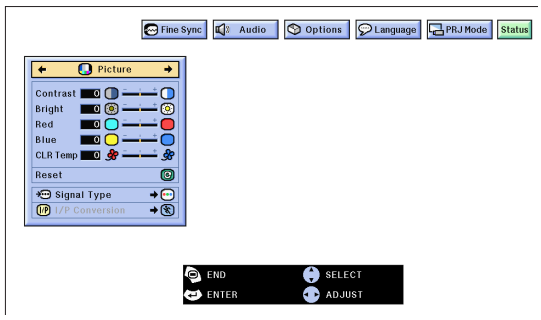
Picture Adjustments

Projector **Remote control**

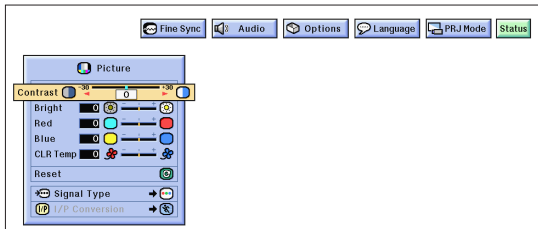


(GUI) On-screen Display
(COMPUTER/RGB input in INPUT 1 or 2 mode)

①



②



Adjusting the Picture

You can adjust the projector's picture to your preferences with the following picture settings.

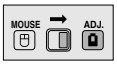
Description of Adjustment Items

Selected item	◀ button	▶ button
Contrast	For less contrast	For more contrast
Bright	For less brightness	For more brightness
Color	For less colour intensity	For more colour intensity
Tint	Skin tones become purplish	Skin tones become greenish
Sharp	For less sharpness	For more sharpness
Red	For weaker red	For stronger red
Blue	For weaker blue	For stronger blue
Reset	All image adjustment items are returned to the factory preset settings.	

NOTE

- "Color", "Tint" and "Sharp" do not appear for COMPUTER/RGB input in INPUT 1 or 2 mode.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)



① Press **MENU**. Menu bar and "Picture" menu screen appear. GUI operation guide is also displayed.

② Press ▲/▼ to select a specific adjustment item.

③ Press ◀/▶ to move the ⬮ mark of the selected adjustment item to the desired setting.

④ To exit from the GUI, press **MENU**.

NOTE

- To reset all adjustment items, select "Reset" on the "Picture" menu screen and press **ENTER**.
- The adjustments can be stored separately in the "INPUT 1", "INPUT 2" and "INPUT 3 (VIDEO)" modes.
- Depending on the type of signal received, "Sharp" may not be adjustable for COMPONENT input in INPUT 1 or 2 mode.

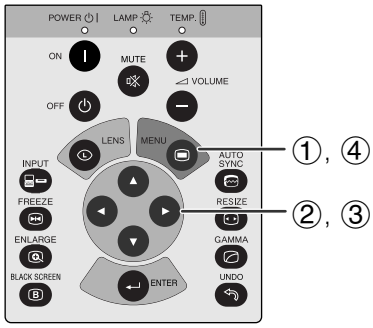
Adjusting the Colour Temperature

This function can be used to adjust the colour temperature to suit the type of image input to the projector (video, computer image, TV broadcast, etc.). Decrease the colour temperature to create warmer, reddish images for natural flesh tones. Increase the colour temperature to create cooler, bluish images for a brighter picture.

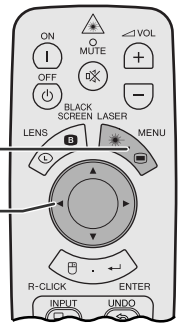
Description of Colour Temperature

−3 (Red) ◀ button	+3 ▶ button (Blue)
Decreases colour temperature for warmer, reddish, incandescent-like images. (Low colour temperature)	Increases colour temperature for cooler, bluish, florescent-like images. (High colour temperature)

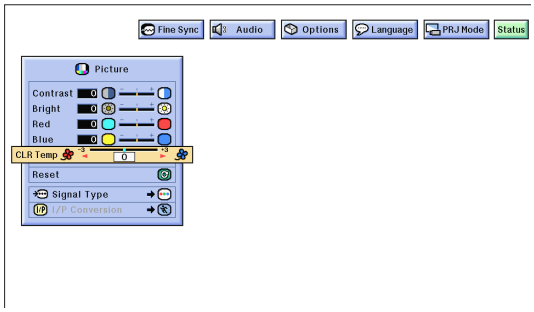
Projector



Remote control



(GUI) On-screen Display



(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**. Menu bar and “Picture” menu screen appear. GUI operation guide is also displayed.

② Press ▲/▼ to select “CLR Temp”.

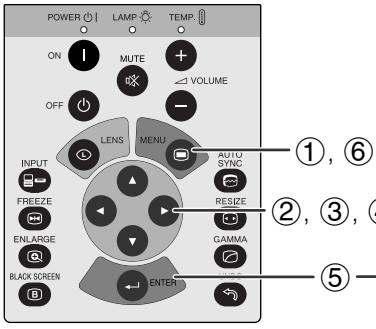
③ Press ◀/▶ to move the ⬮ mark of the selected adjustment item to the desired setting.

④ To exit from the GUI, press **MENU**.

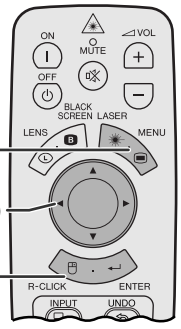
Selecting the Signal Type

This function allows you to select the input signal type (COMPUTER/RGB or COMPONENT) for INPUT 1 or 2 port.

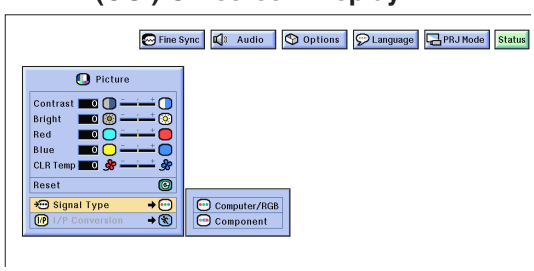
Projector



Remote control



(GUI) On-screen Display



(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select “Picture”.

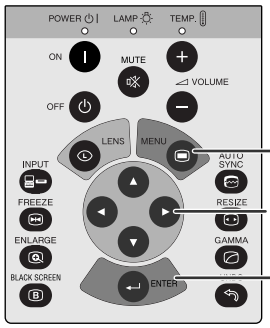
③ Press ▲/▼ to select “Signal Type”, and then press ▶.

④ Press ▲/▼ to select “Computer/RGB” or “Component”.

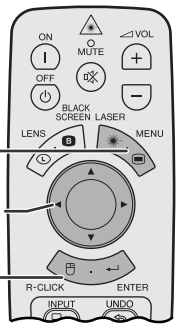
⑤ Press **ENTER** to save the setting.

⑥ To exit from the GUI, press **MENU**.

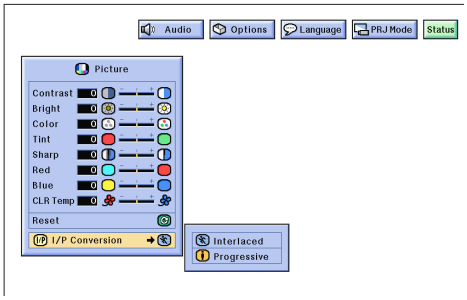
Projector



Remote control



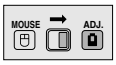
(GUI) On-screen Display



I/P Conversion

This function allows you to select either an interlaced display or a progressive display of a video signal. The progressive display projects a smoother video image.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)



① Press **MENU**.
② Press ◀/▶ to select “Picture”.
③ Press ▲/▼ to select “I/P Conversion”, and then press ▶.
④ Press ▲/▼ to select “Interlaced” or “Progressive”.
⑤ Press **ENTER** to save the setting.
⑥ To exit from the GUI, press **MENU**.

Interlaced mode

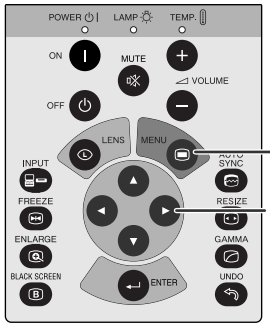
Interlaced mode creates a single image through the activation of scanning lines in two fields. Use this mode when projecting moving images.

Progressive mode

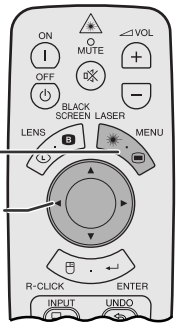
Progressive mode creates a single image using all available scanning lines. Use this mode when projecting still images to avoid flicker and stripes that result from interlaced source still images.

Audio Adjustments

Projector

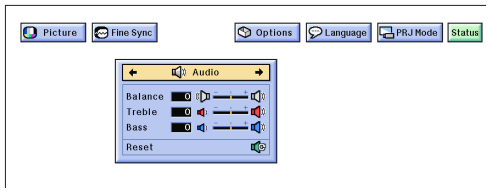


Remote control

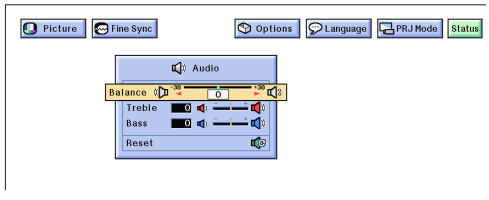


(GUI) On-screen Display

②



③



This projector’s audio is factory preset to standard settings. However, you can adjust it to suit your own preferences by adjusting the following audio settings.

Description of Adjustment Items

Selected item	◀ button	▶ button
Balance	Increased audio from the left speaker	Increased audio from the right speaker
Treble	For weaker treble	For stronger treble
Bass	For weaker bass	For stronger bass
Reset	All audio adjustment items are returned to the factory preset settings.	

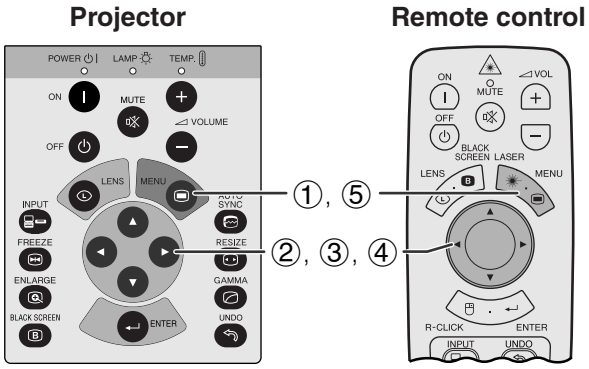
(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**. Menu bar and “Picture” menu screen appear. GUI operation guide is also displayed.
② Press ◀/▶ to select “Audio”.
③ Press ▲/▼ to select a specific adjustment item.
④ Press ◀/▶ to move the ❙ mark of the selected adjustment item to the desired setting.
⑤ To exit from the GUI, press **MENU**.

NOTE

- To reset all adjustment items, select “Reset” on the “Audio” menu screen and press **ENTER**.

Computer Image Adjustments (INPUT 1 or 2 mode Only)



Adjusting the Computer Image

When displaying computer patterns which are very detailed (tiling, vertical stripes, etc.), interference may occur between the LCD pixels, causing flickering, vertical stripes, or contrast irregularities in portions of the screen. Should this occur, adjust "Clock", "Phase", "H-Pos" and "V-Pos" for the optimum computer image.

Description of Adjustment Items

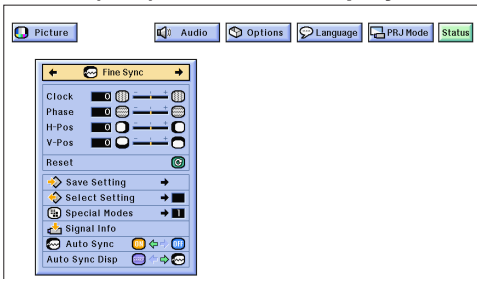
Selected item	Description
Clock	Adjusts vertical noise.
Phase	Adjusts horizontal noise (similar to tracking on your VCR).
H-Pos	Centres the on-screen image by moving it to the left or right.
V-Pos	Centres the on-screen image by moving it up or down.

NOTE

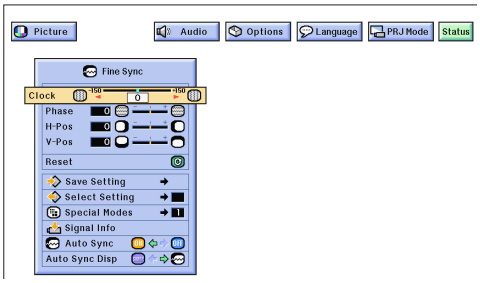
- Computer image adjustments can be made easily by pressing **AUTO SYNC** (). See page 32 for details.

(GUI) On-screen Display

②



③



(Select the desired computer input mode with **INPUT**.)

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**. Menu bar and "Picture" menu screen appear. GUI operation guide is also displayed.

② Press ◀/▶ to select "Fine Sync".

③ Press ▲/▼ to select a specific adjustment item.

④ Press ◀/▶ to move the ▮ mark of the selected adjustment item to the desired setting.

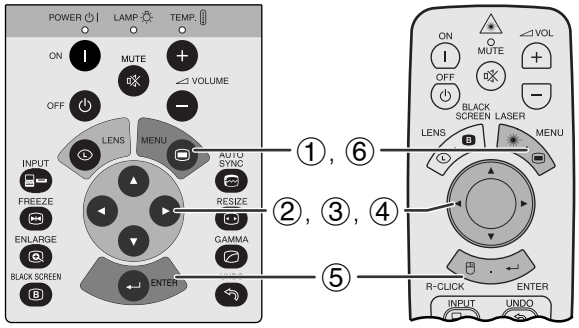
⑤ To exit from the GUI, press **MENU**.

NOTE

- To reset all adjustment items, select "Reset" on the "Fine Sync" menu screen and press **ENTER**.

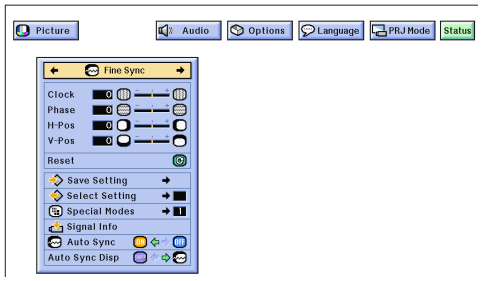
Projector

Remote control

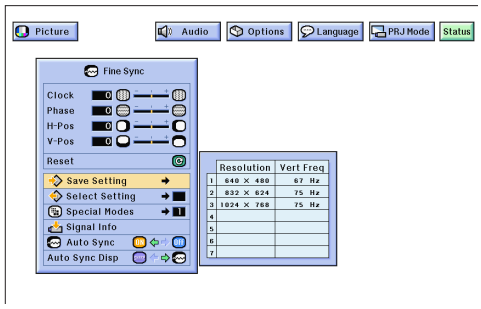


(GUI) On-screen Display

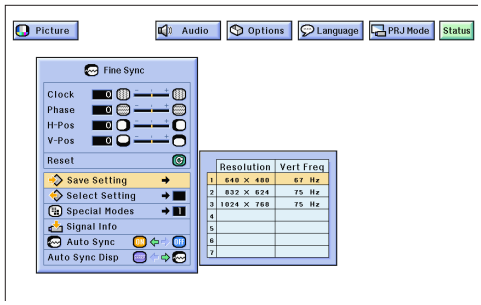
②



③



④



Saving and Selecting Adjustment Settings

This projector allows you to store up to seven adjustment settings for use with various computers. Once these settings are stored, they can be easily selected each time you connect a computer to the projector.

Saving the adjustment setting

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select “Fine Sync”.

③ Press ▲/▼ to select “Save Setting”, and then press ▶.

④ Press ▲/▼ to select the desired memory location of the setting.

⑤ Press **ENTER** to save the setting.

⑥ To exit from the GUI, press **MENU**.

Selecting a saved setting

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select “Fine Sync”.

③ Press ▲/▼ to select “Select Setting”, and then press ▶.

④ Press ▲/▼ to select the desired memory setting.

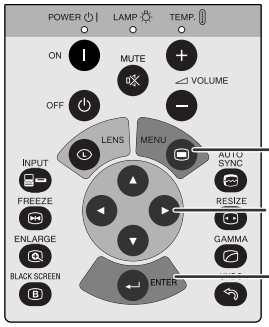
⑤ Press **ENTER** to select the setting.

⑥ To exit from the GUI, press **MENU**.

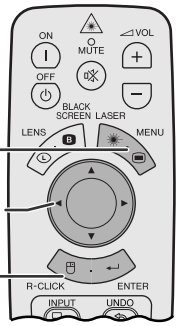
NOTE

- If a memory position has not been set, a resolution and frequency setting will not be displayed.
- When selecting the stored adjustment setting with “Select Setting”, the computer system should match the stored setting.

Projector



Remote control

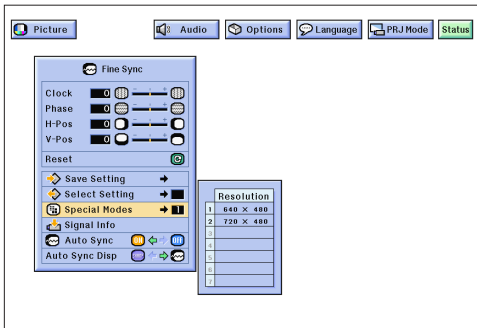


①, ⑥

②, ③, ④

⑤

(GUI) On-screen Display



Special Mode Adjustment

Ordinarily, the type of input signal is detected and the correct resolution mode is automatically selected. However, for some signals, the optimal resolution mode in “Special Modes” on the “Fine Sync” menu screen may need to be selected to match the computer display mode.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select “Fine Sync”.

③ Press ▲/▼ to select “Special Modes”, and then press ▶.

④ Press ▲/▼ to select the optimal resolution mode.

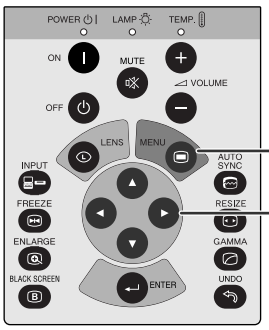
⑤ Press **ENTER** to save the setting.

⑥ To exit from the GUI, press **MENU**.

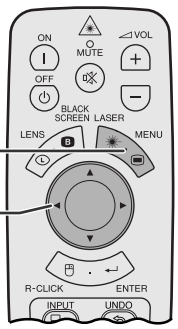
NOTE

- Avoid displaying computer patterns which repeat every other line (horizontal stripes). (Flickering may occur, making the image hard to see.)
- When inputting DTV 480P signals, select “480P” in step ④ above.

Projector



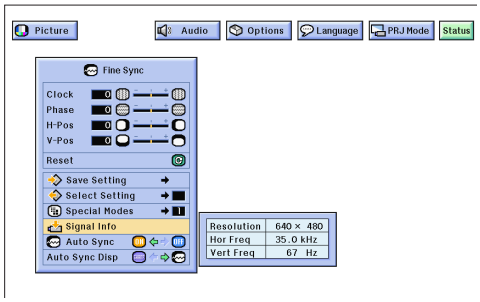
Remote control



①, ④

②, ③

(GUI) On-screen Display



Checking the Input Signal

This function allows you to check the current input signal information.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

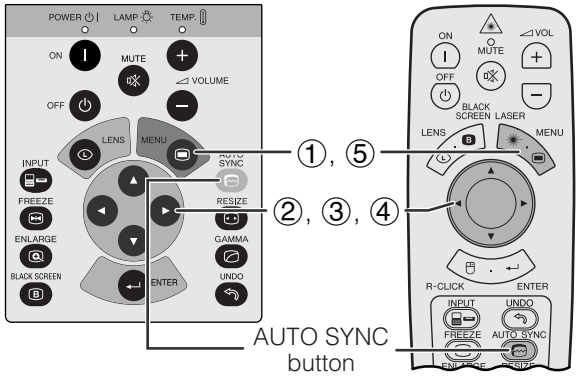
② Press ◀/▶ to select “Fine Sync”.

③ Press ▲/▼ to select “Signal Info” to display the current input signal.

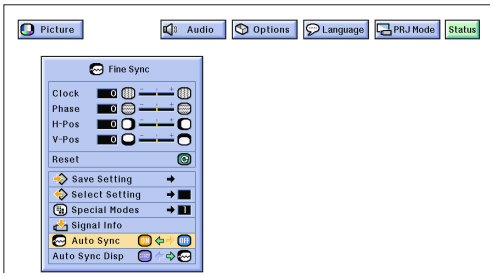
④ To exit from the GUI, press **MENU**.

Projector

Remote control

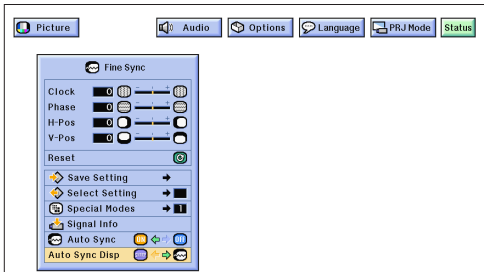


(GUI) On-screen Display



On-screen Display

(GUI) On-screen Display



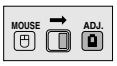
Auto Sync Adjustment

- Used to automatically adjust a computer image.
- Auto Sync adjustment can be made manually by pressing **AUTO SYNC**, or automatically by setting "Auto Sync" to "ON" in the projector's GUI menu.

When "Auto Sync" is set to "ON":

- The sync adjustment is automatically made each time the projector is turned on while connected to a computer or the input selection is changed.
- The Auto Sync adjustment setting previously made is cleared when the projector's setting is changed.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)



① Press **MENU**.

② Press ◀/▶ to select "Fine Sync".

③ Press ▲/▼ to select "Auto Sync".

④ Press ◀/▶ to select "ON".

⑤ To exit from the GUI, press **MENU**.

NOTE

- Automatic adjustments can be made by pressing **AUTO SYNC**.
- When the optimum image cannot be achieved with Auto Sync adjustment, use manual adjustments. (See page 29.)

During Auto Sync adjustment, the On-screen Display changes as shown on the left.

NOTE

- Auto Sync adjustment may take some time to complete, depending on the image of the computer connected to the projector.

Auto Sync Display Function

Normally, an image is not superimposed during Auto Sync adjustment. You can, however, choose to superimpose a background image during Auto Sync adjustment.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

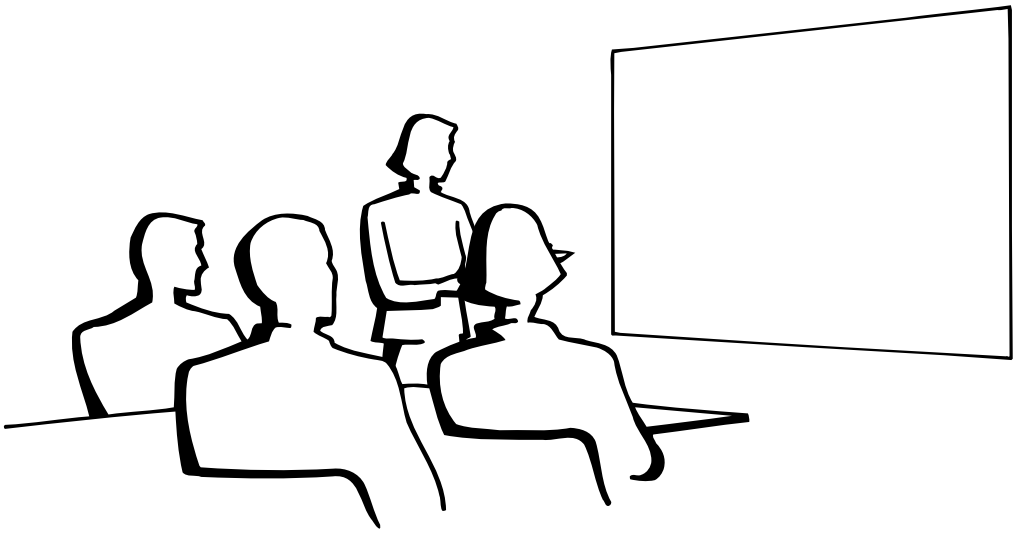
② Press ◀ /▶ to select "Fine Sync".

③ Press ▲/▼ to select "Auto Sync Disp".

④ Press ◀/▶ to select "▭" to superimpose a background image or "▭" to remove the background image during Auto Sync adjustment.

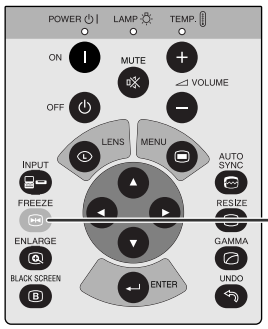
⑤ To exit from the GUI, press **MENU**.

Useful Features



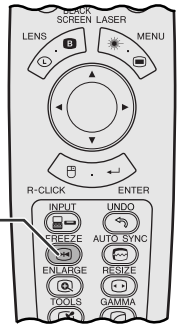
Freeze Function

Projector

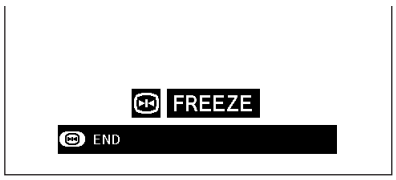


①, ②

Remote control



On-screen Display



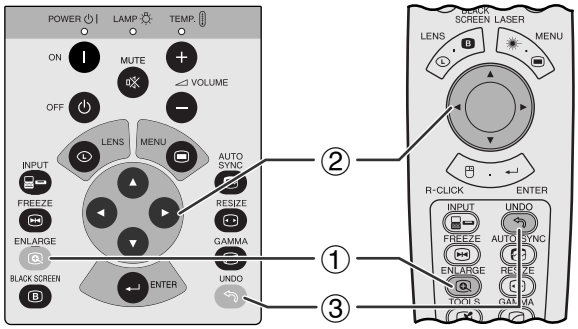
This function allows you to instantly freeze a moving image. This is useful when you want to display a still image from a computer or video, giving you more time to explain the image to the audience.
You can also use this function to display a still image from a computer while you make preparations for the next computer images to be presented.

① Press **FREEZE** to freeze the image.

② Press **FREEZE** again to return to the moving image.

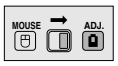
Digital Image Magnification

Projector **Remote control**



This function allows you to magnify a specific portion of an image. This is useful when you want to display a detailed portion of the image.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ.)



① Press **ENLARGE**. Each time **ENLARGE** is pressed, the image will be magnified.

② When the image is magnified, you can pan and scan around the image by using ▲/▼/◀/▶.

NOTE

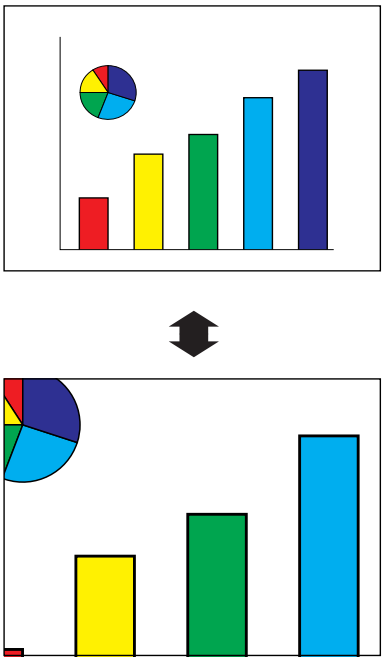
- Each time **ENLARGE** is pressed, image magnification toggles as shown below.

×1 → ×2 → ×3 → ×4 → ×6 → ×8

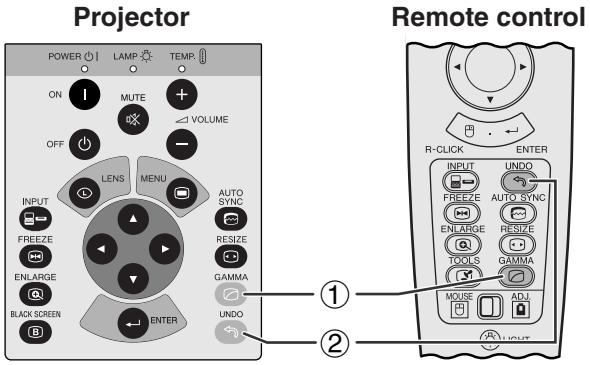
- If the input signal is changed during digital image magnification, the image will return to ×1. The input signal is changed
  (a) when **INPUT** is pressed,
  (b) when the input signal is interrupted, or
  (c) when the input resolution and refresh rate changes.

③ To return to × 1, press **UNDO**.

On-screen Display



Gamma Correction



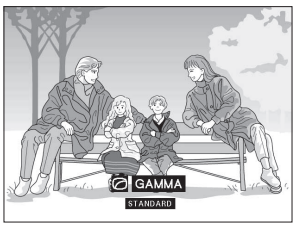
- Gamma is an image quality enhancement function that offers a richer image by brightening the darker portions of the image without altering the brightness of the brighter portions.
- Four gamma settings are available to allow for differences in the images displayed and in the brightness of the room.
- When you are displaying images with frequent, dark scenes, such as a film or concert, or when you are displaying images in a bright room, this feature makes the dark scenes easier to see and gives the impression of greater depth in the image.

Gamma Modes

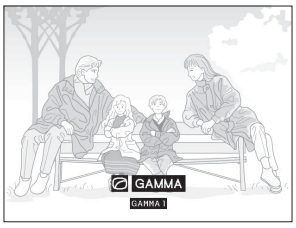
Selected Mode	Gamma mode
STANDARD	Standard picture without gamma correction.
GAMMA 1	Brightens darker portions of image for more enhanced presentations.
GAMMA 2	Gives greater depth to darker portions of image for a more exciting theatre experience.
CUSTOM	Allows you to adjust gamma value using Sharp Advanced Presentation Software.

On-screen Display

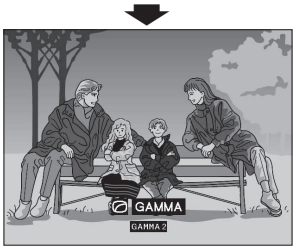
STANDARD



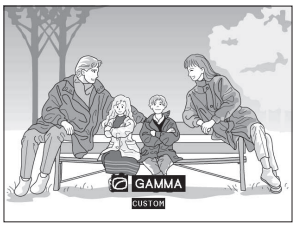
GAMMA 1



GAMMA 2



CUSTOM



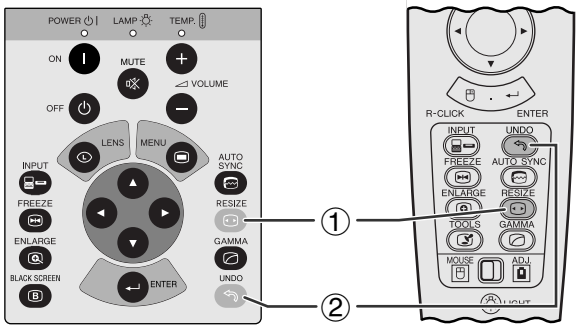
(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **GAMMA**. Each time **GAMMA** is pressed, the gamma level toggles as shown on the left.

② To return to the standard image, press **UNDO** while “GAMMA” is displayed on the screen.

Selecting the Picture Display Mode

Projector **Remote control**



This function allows you to modify or customise the picture display mode to enhance the input image. Depending on the input signal, you can choose NORMAL, FIT TO SCREEN, DOT BY DOT, WIDE or NORMAL (WIDE) image.

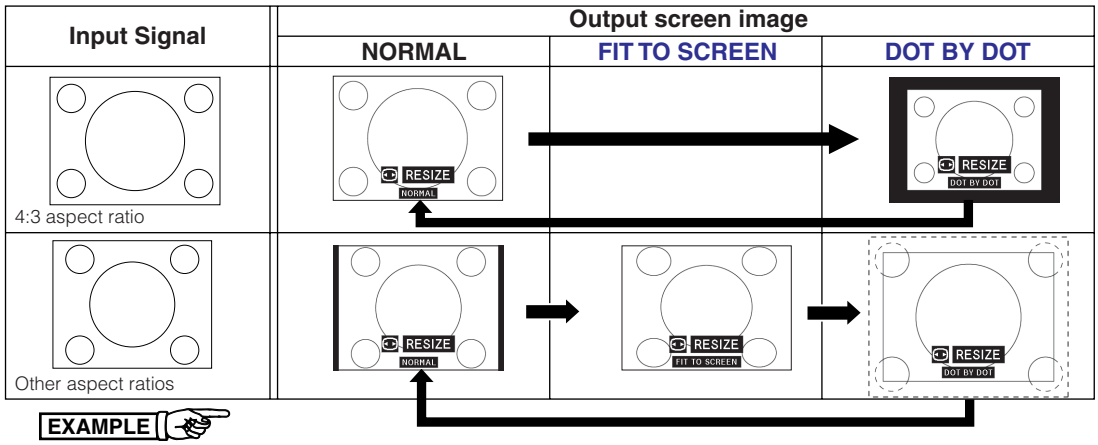
① Press **RESIZE**. Each time **RESIZE** is pressed, the picture mode changes as shown below.

② To return to the standard image, press **UNDO** while "RESIZE" is displayed on the screen.

COMPUTER

EXAMPLE

		NORMAL	FIT TO SCREEN	DOT BY DOT
4:3 aspect ratio	SVGA (800 × 600)	1024 × 768	–	800 × 600
	XGA (1024 × 768)	1024 × 768	–	1024 × 768
	UXGA (1600 × 1200)	1024 × 768	–	1600 × 1200
Other aspect ratios	SXGA (1280 × 1024)	960 × 768	1024 × 768	1280 × 1024

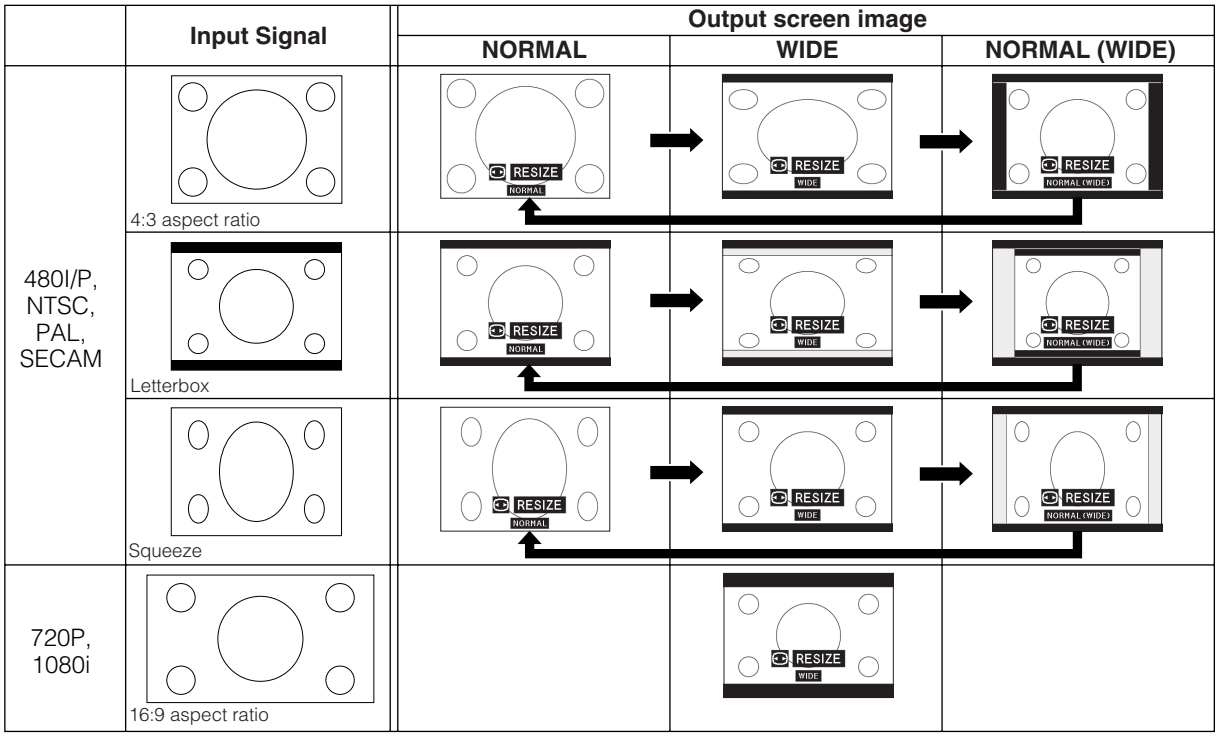


VIDEO/DTV

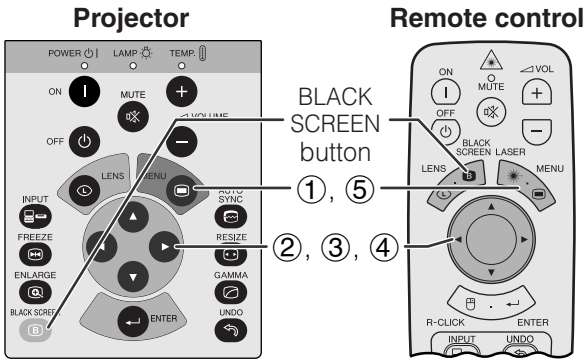
EXAMPLE

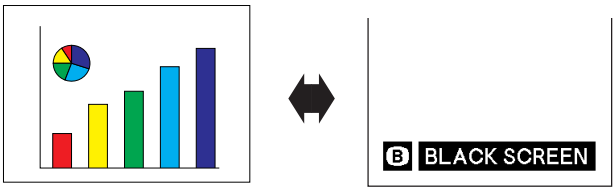
		NORMAL	WIDE	NORMAL (WIDE)
4:3 aspect ratio 480I/P, NTSC, PAL, SECAM	4:3	1024 × 768	1024 × 576*	768 × 576*
	Letterbox	1024 × 768	1024 × 576*	768 × 576*
	Squeeze	–	1024 × 576*	768 × 576*
16:9 aspect ratio, 720P, 1080i	480I/P, 720P, 1080i	–	1024 × 576*	–

*The digital image shift function can be used with these picture display modes.

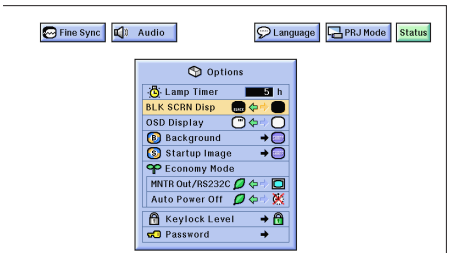


Black Screen Function





(GUI) On-screen Display



This function can be used to superimpose a black screen over the projected image.

Blacking out the Projected Image

Press **BLACK SCREEN**. The screen turns black and "BLACK SCREEN" is displayed on the screen. To return to the original projected image, press **BLACK SCREEN** again.

NOTE

- To use the remote control to operate this function, slide the **MOUSE/ADJUSTMENT** switch to the MOUSE position before pressing **BLACK SCREEN**.

Turning off the On-screen Display

The On-screen Display ("BLACK SCREEN") that appears during black screen can be turned off. When "BLK SCRN Disp" is set to "■" in the GUI menu, "BLACK SCREEN" will not be displayed during function.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

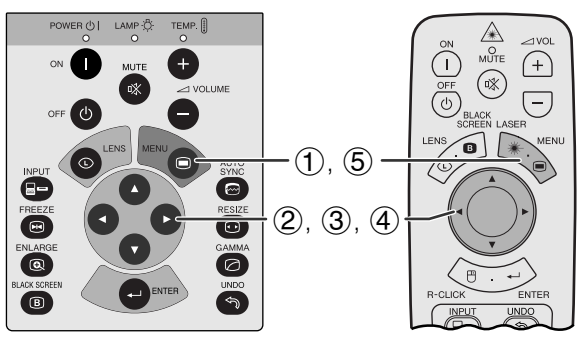
② Press ◀ /▶ to select "Options".

③ Press ▲/▼ to select "BLK SCRN Disp".

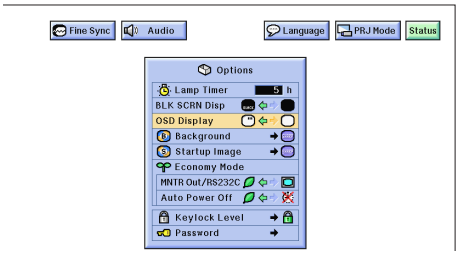
④ Press ◀/▶ to select "■" to turn on or "■" to turn off the On-screen Display.

⑤ To exit from the GUI, press **MENU**.

On-screen Display Override Function



(GUI) On-screen Display



This function allows you to turn off the on-screen messages that appear during input select. Once "OSD Display" is set to "▭" in the GUI menu, the on-screen messages will not appear when **INPUT** is pressed.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select "Options".

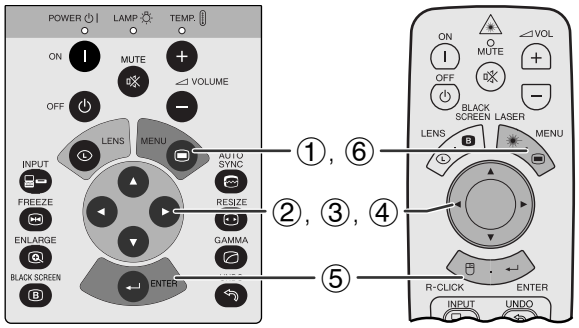
③ Press ▲/▼ to select "OSD Display".

④ Press ◀/▶ to select "▭" to turn on or "▭" to turn off the On-screen Display.

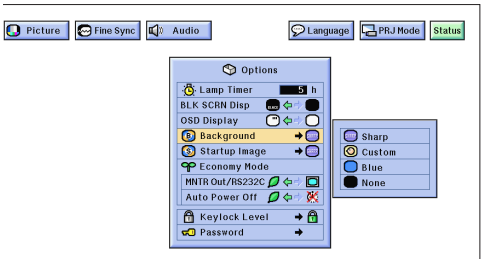
⑤ To exit from the GUI, press **MENU**.

Selecting a Background Image

Projector **Remote control**



(GUI) On-screen Display



This function allows you to select the image displayed when no signal is being sent to the projector.

Description of Background Images

Selected item	Background image
Sharp	SHARP default image
Custom	User customised image (i.e. company logo)
Blue	Blue screen
None	Black screen

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

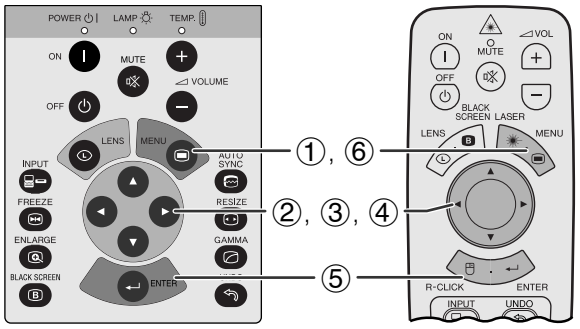
① Press **MENU**.
② Press ◀/▶ to select “Options”.
③ Press ▲/▼ to select “Background”, and then press ▶.
④ Press ▲/▼ to select the background image you want to display on the screen.
⑤ Press **ENTER** to save the setting.
⑥ To exit from the GUI, press **MENU**.

NOTE

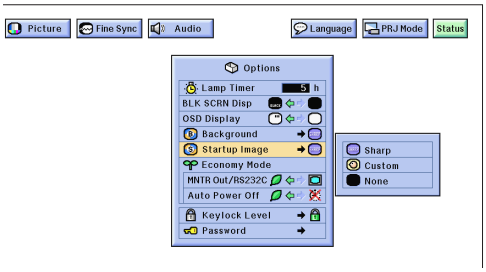
- By selecting “Custom”, the projector can display a custom image (i.e. your company logo) as the background image. The custom image must be a 256-colour BMP file with a picture size no larger than 1,024 × 768 pixels. Please see the Sharp Advanced Presentation Software operation manual for how to save (or change) a custom image.

Selecting a Startup Image

Projector **Remote control**



(GUI) On-screen Display

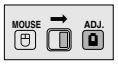


- This function allows you to specify the image to be displayed upon the projector’s startup.
- A custom image (i.e. your company logo) can be uploaded to the projector via an RS-232C cable. See page 14 in this operation manual, and also the supplied Sharp Advanced Presentation Software operation manual for detailed instructions.

Description of Startup Images

Selected item	Startup image
Sharp	SHARP default image
Custom	User customised image (i.e. company logo)
None	Black screen

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)



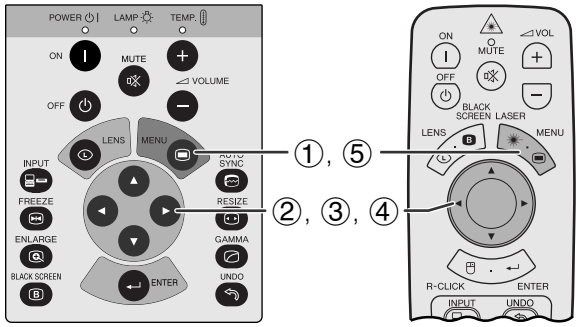
① Press **MENU**.
② Press ◀/▶ to select “Options”.
③ Press ▲/▼ to select “Startup Image”, and then press ▶.
④ Press ▲/▼ to select the startup image you want to display on the screen.
⑤ Press **ENTER** to save the setting.
⑥ To exit from the GUI, press **MENU**.

NOTE

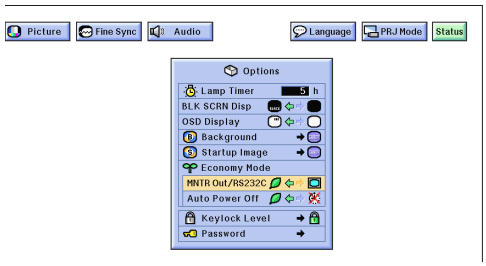
- By selecting “Custom”, the projector can display a custom image (i.e. your company logo) as the startup image. The custom image must be a 256-colour BMP file with a picture size no larger than 1,024 × 768 pixels. Please see the Sharp Advanced Presentation Software operation manual for how to save (or change) a custom image.

Economy Mode

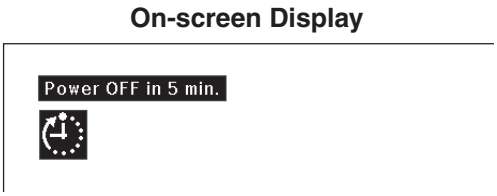
Projector **Remote control**



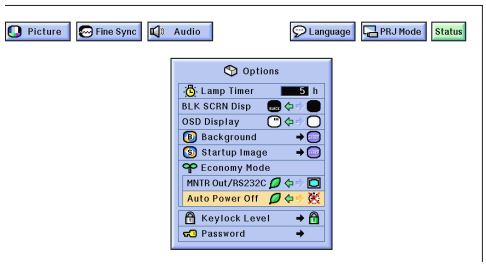
(GUI) On-screen Display



On-screen Display



(GUI) On-screen Display



These functions allow you to reduce the power consumption when the projector is in standby mode.

Monitor Out/RS-232C Off Function

This projector consumes power when using a monitor connected to the OUTPUT port for INPUT 1, 2 and a computer connected to the RS-232C port. When not using these ports, "MNTR Out/RS232C" can be set to "🍃" to reduce standby power consumption.

Description of Monitor Out/RS-232C Off

🍃	Standby power for Monitor Out/RS-232C connection turned off.
▣	Monitor Out/RS-232C on

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select "Options".

③ Press ▲/▼ to select "MNTR Out/RS232C".

④ Press ◀/▶ to select "🍃" or "▣".

⑤ To exit from the GUI, press **MENU**.

CAUTION

- Set "MNTR Out/RS232C" to "▣" when using the Sharp Advanced Presentation Software (supplied).

Automatic Power Shutoff Function

When no input signal is detected for more than 15 minutes, the projector will automatically shut off. The on-screen message on the left will appear five minutes before the power is automatically turned off.

Description of Automatic Power Shutoff

🍃	Power automatically shuts off after 15 minutes of no signal input.
⊗	Automatic Power Shutoff disabled.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select "Options".

③ Press ▲/▼ to select "Auto Power Off".

④ Press ◀/▶ to select "🍃" or "⊗".

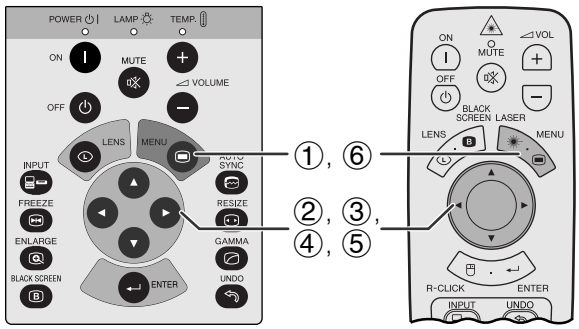
⑤ To exit from the GUI, press **MENU**.

NOTE

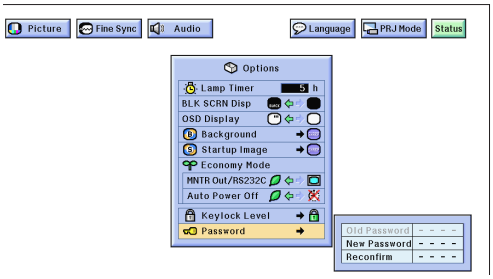
- "Auto Power Off" is factory preset to "🍃", and "MNTR Out/RS232C" is factory preset to "▣".

Password

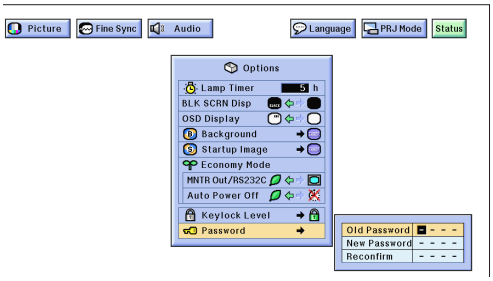
Projector **Remote control**



(GUI) On-screen Display



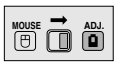
(GUI) On-screen Display



A password can be set by the user and used with the keylock level to prevent adjustments to certain settings on the GUI.

Setting the Password

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)



① Press **MENU**.

② Press ◀/▶ to select “Options”.

③ Press ▲/▼ to select “Password”, and then press ▶.

④ Enter the new password using ▲/▼ to select the desired number, and then press ▶ to select the next digit. Continue this procedure for the remaining three digits, and then press **ENTER**.

⑤ Enter the password again (“Reconfirm”) using ▲/▼/◀/▶, and then press **ENTER**.

⑥ To exit from the GUI, press **MENU**.

NOTE

- After setting the password, be sure to write it down in a secure location so as not to forget it.

Changing the Password

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Follow steps ① to ③ in “Setting the Password” above.

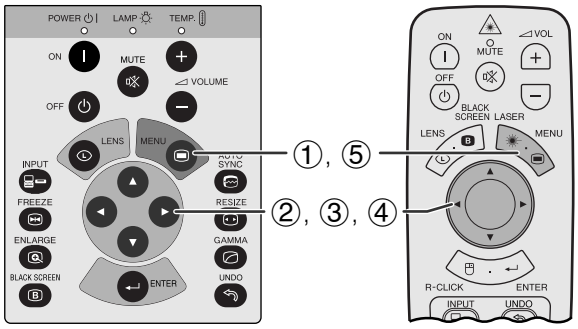
② Enter the old password using ▲/▼/◀/▶, and then press **ENTER**.

③ Enter the new password using ▲/▼/◀/▶, and then press **ENTER**.

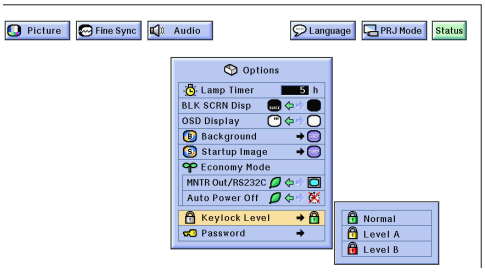
④ Enter the password again (“Reconfirm”) using ▲/▼/◀/▶, and then press **ENTER**.

Selecting the Keylock Level

Projector **Remote control**



(GUI) On-screen Display



This function can be used to lock the use of certain operation buttons on the projector. The user can still operate the projector fully with the remote control.

Description of Keylock Levels

Selected item	Description
Normal	All operation buttons are functional.
Level A	Only **INPUT**, **VOLUME**, **MUTE**, **BLACK SCREEN** on the projector are available.
Level B	All operation buttons on the projector are unavailable.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **MENU**.

② Press ◀/▶ to select “Options”.

③ Press ▲/▼ to select “Keylock Level”, and then press ▶.

④ Press ▲/▼ to select the desired level.

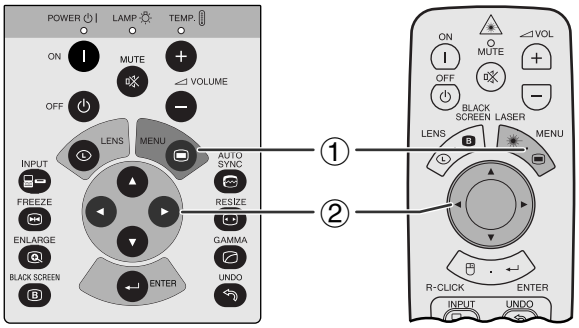
⑤ To exit from the GUI, press **MENU**.

NOTE

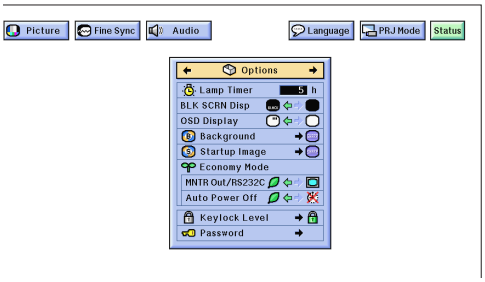
- To cancel the keylock level, perform the above procedure using the remote control.
- If a password has been set and the keylock level selected, the password must be entered before adjusting the keylock level.

Checking the Lamp Usage Time

Projector **Remote control**

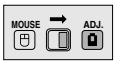


(GUI) On-screen Display



This function allows you to check the accumulated lamp usage time.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)



① Press **MENU**.

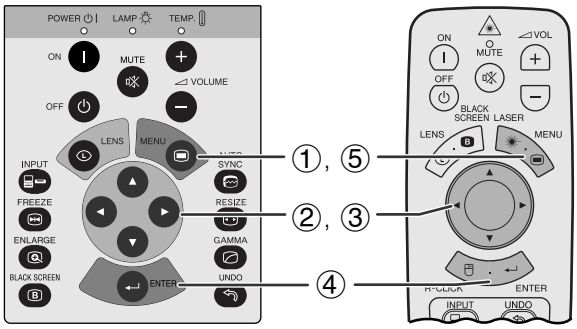
② Press ◀/▶ to select “Options”. The lamp usage time will be displayed.

NOTE

- It is recommended that the lamp be replaced after approximately 900 hours of usage. See pages 48 and 49 for lamp replacement.

Reverse/Invert Image Function

Projector **Remote control**



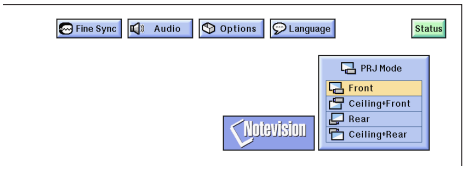
This projector is equipped with a reverse/invert image function which allows you to reverse or invert the projected image for various applications.

Description of Projected Images

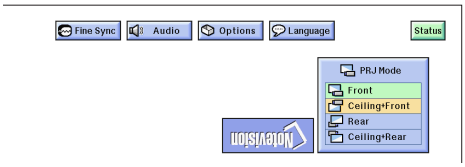
Selected item	Projected image
Front	Normal image
Ceiling + Front	Inverted image
Rear	Reversed image
Ceiling + Rear	Reversed and inverted image

(GUI) On-screen Display

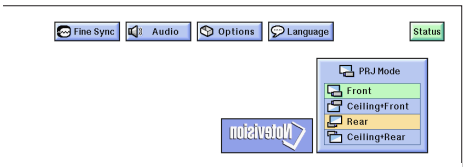
When "Front" is selected.



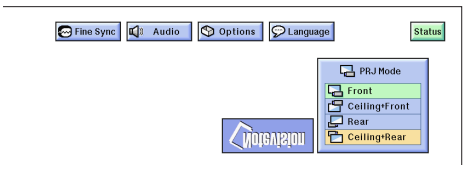
When "Ceiling + Front" is selected.



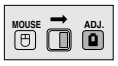
When "Rear" is selected.



When "Ceiling + Rear" is selected.



(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)



① Press **MENU**.

② Press ◀/▶ to select "PRJ Mode".

③ Press ▲/▼ to select the desired projection mode.

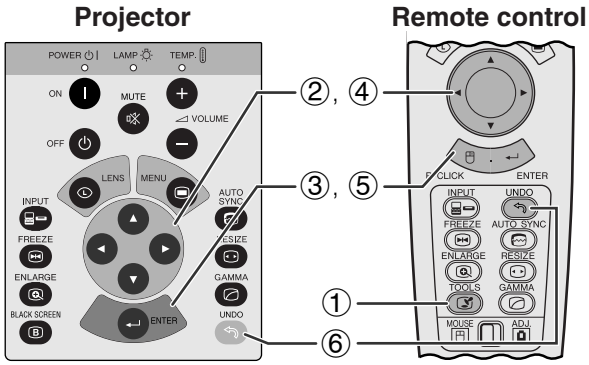
④ Press **ENTER** to save the setting.

⑤ To exit from the GUI, press **MENU**.

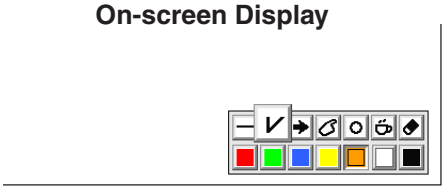
NOTE

- This function is used for the reversed image and ceiling-mount setups. See page 19 for these setups.

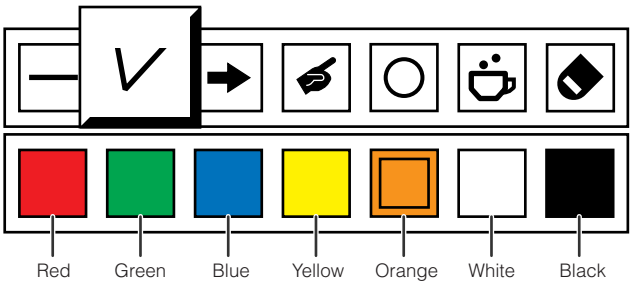
Using the Presentation Tools



On-screen Display



Menu Window



This projector is equipped with presentation tools that can be used to emphasise keypoints within your presentation.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **TOOLS** to display the presentation tools menu window on the screen.

② Press ▲/▼/◀/▶ to select the desired tool and colour.

③ Press **ENTER** to select it.

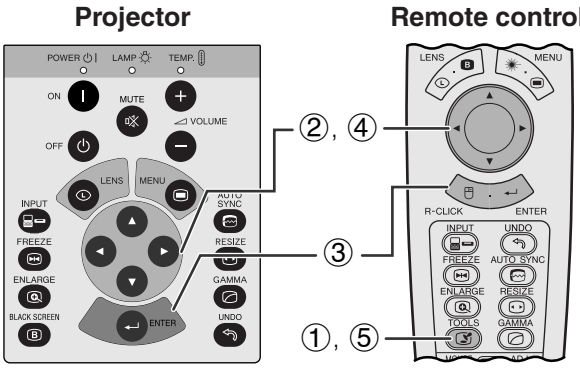
④ Once the tool is displayed on the screen, press ▲/▼/◀/▶ to move it around the screen.

⑤ Press **ENTER** to stamp the tool on the screen.

⑥ Press **UNDO** to individually delete tools stamped on the screen.

NOTE

- You can stamp each tool as many times as you want on the screen.
- To clear all the stamped presentation tools from the screen, press ▲/▼/◀/▶ to select "◆" and then press **ENTER**.



When selecting Sharp default image

Displaying the BreakTime

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

① Press **TOOLS** to display the presentation tools menu window on the screen.

② Press ▲/▼/◀/▶ to select "☕" in the menu window.

③ Press **ENTER** to start counting down the break time.

④ Press ▲ to increase or ▼ to decrease the break time.

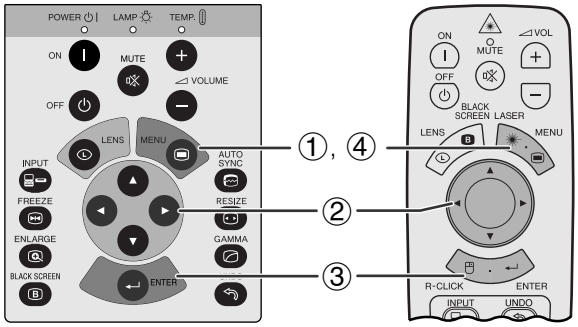
⑤ Press **TOOLS** to return to normal screen.

NOTE

- The break time is displayed against the background image selected in "Selecting a Startup Image". (See page 38.)

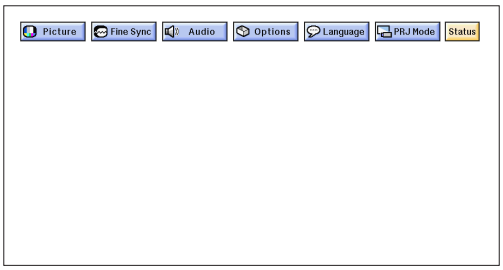
Status Function

Projector **Remote control**

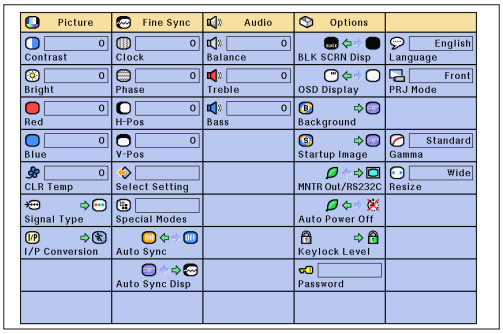


(GUI) On-screen Display

②



③



This function can be used to display all the adjusted settings on the screen simultaneously.

(Slide the **MOUSE/ADJUSTMENT** switch on the remote control to the ADJ. position.)

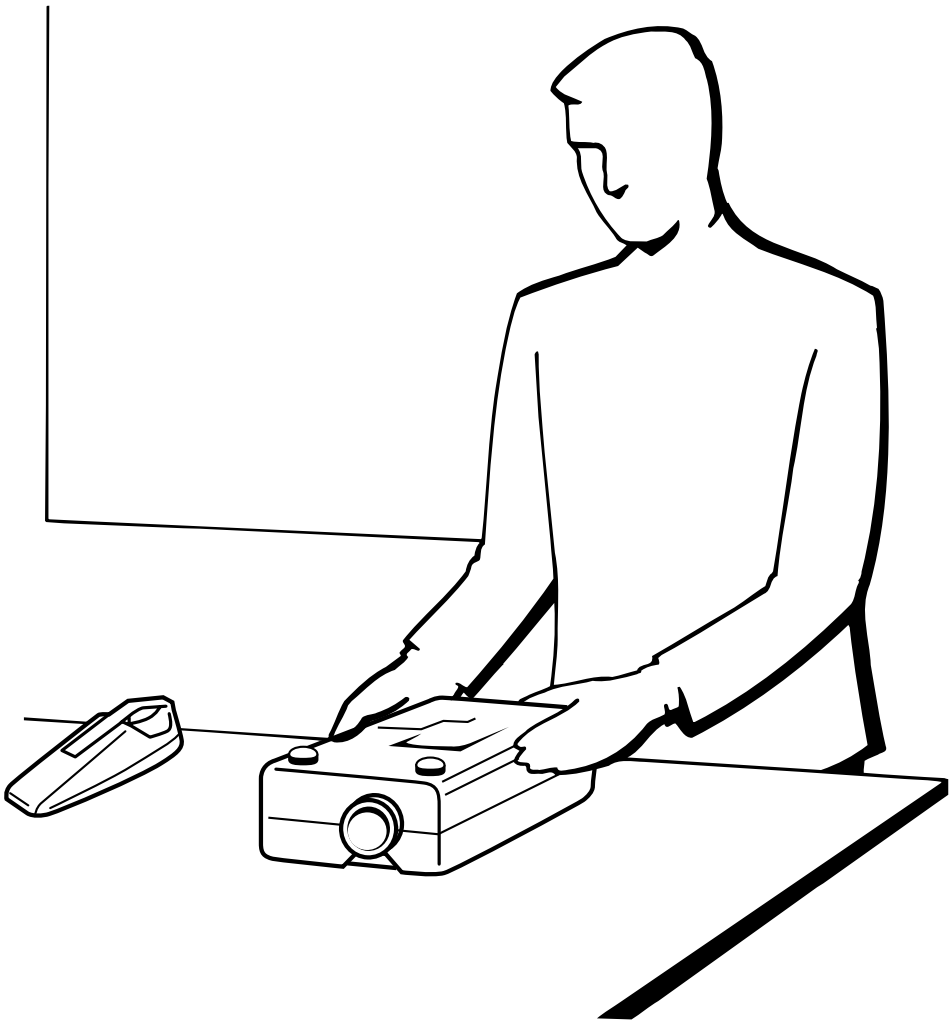
① Press **MENU**.

② Press ◀/▶ to select “Status”.

③ Press **ENTER** to display all the adjustment settings.

④ To exit from the GUI, press **MENU**.

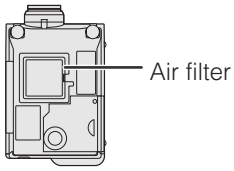
Maintenance & Troubleshooting



Air Filter Maintenance

- This projector is equipped with two air filters to ensure the optimal operating condition of the projector.
- The air filters should be cleaned every 100 hours of use. Clean the filters more often when the projector is used in a dusty or smoky location.
- Have your nearest Sharp Authorised LCD Projector Dealer or Service Centre exchange the filter (PFILD0088CEZZ) when it is no longer possible to clean it.

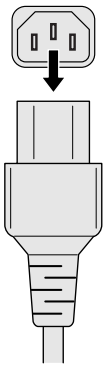
Bottom View



Side and Rear View

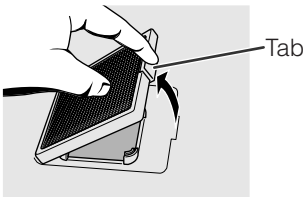
Cleaning and replacing the bottom air filter

1 Unplug the power cord.



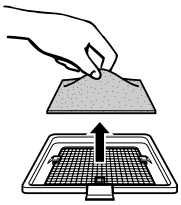
2 Remove the bottom filter cover.

Turn over the projector. Press the tab and lift open the filter cover in the direction of the arrow.



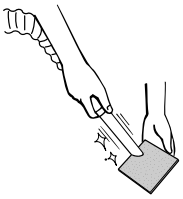
3 Remove the air filter.

Grasp the air filter between your fingers and lift it out of the filter cover.



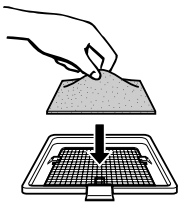
4 Clean the air filter.

Clean the dust off the air filter and cover with a vacuum cleaner extension hose.



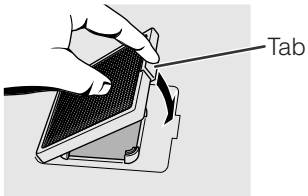
5 Replace the air filter.

Place the air filter underneath the tabs on the filter frame.



6 Replace the filter cover.

Insert the tab on the end of the filter cover into the filter cover opening and press the filter cover into position.



NOTE

- Be sure the filter cover is securely installed. The power will not turn on unless it is correctly installed.

Cleaning the side air filter (not removable)

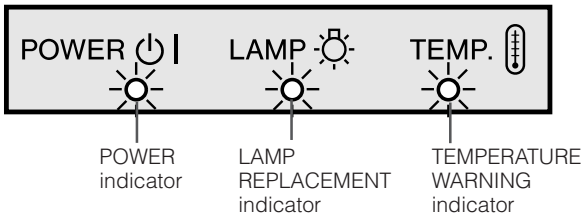
If dust or dirt has collected inside the air filter, clean the filter with a vacuum cleaner extension hose.

NOTE

- The side air filter cannot be removed.

Lamp/Maintenance Indicators

Maintenance Indicators



- The warning lights on the projector indicate problems inside the projector.
- There are two warning lights: a TEMPERATURE WARNING indicator which warns that the projector is too hot, and a LAMP REPLACEMENT indicator which lets you know when to change the lamp.
- If a problem occurs, either the TEMPERATURE WARNING indicator or the LAMP REPLACEMENT indicator will light up red. After turning off the power, follow the procedures given below.

Maintenance Indicator	Condition	Problem	Possible Solution
TEMPERATURE WARNING indicator	The internal temperature is abnormally high.	• Blocked air intake.	• Relocate the projector to an area with proper ventilation.
		• Clogged air filter.	• Clean the filter. (See page 46.)
		• Cooling fan breakdown. • Internal circuit failure.	• Take the projector to your nearest Sharp Authorised LCD Projector Dealer or Service Centre for repair.
LAMP REPLACE-MENT indicator	The lamp does not light up.	• Burnt-out lamp. • Lamp circuit failure.	• Carefully replace the lamp. (See pages 48 and 49.)
	The lamp requires replacement.	• Lamp has been used for over 900 hours.	• Take the projector to your nearest Sharp Authorised LCD Projector Dealer or Service Centre for repair.
POWER indicator	The POWER indicator flashes in red when the projector is on.	• The bottom filter cover is open.	• Securely install the bottom filter cover.

NOTE

- If the TEMPERATURE WARNING indicator lights up, follow the above possible solutions and then wait until the projector has cooled down completely before turning the power back on. (At least 5 minutes.)
- If the power is turned off and then turned on again, as during a brief rest, the LAMP REPLACEMENT indicator may be triggered, preventing the power from going on. Should this occur, take the power cord out of the wall outlet and put it back in again.

Lamp

The lamp in this projector operates for approximately 1,000 cumulative hours, depending on the usage environment. It is recommended that the lamp be replaced after 900 cumulative hours of use or when you notice a significant deterioration of the picture and colour quality. The lamp usage time can be checked with the On-screen Display (see page 41).

⚠ CAUTION

- Intense light hazard. Do not attempt to look into the aperture and lens while the projector is operating.

NOTE

- As the usage environment can vary significantly, the projector lamp may not operate for 1,000 hours.

Condition	Problem	Possible Solution
The LAMP REPLACEMENT indicator lights up red, and "LAMP" and "☼" will flash in yellow in the lower-left corner of the picture.	• Lamp has been used for over 900 hours.	• Purchase a replacement lamp unit (lamp/cage module) of the current type BQC-XGP10XE/1 from your nearest Sharp Authorised LCD Projector Dealer or Service Centre. • Replace the lamp. (See pages 48 and 49.) If you wish, you may have the lamp replaced at your nearest Sharp Authorised LCD Projector Dealer or Service Centre.
A significant deterioration of the picture and colour quality occurs.		
The power will automatically turn off and the projector will enter standby mode.	• Lamp has been used for over 1,000 hours.	
"LAMP" and "☼" will flash in red in the lower-left corner of the picture, and the power will turn off.		

Replacing the Projection Lamp

CAUTION:
- **Potential hazard of glass particles if lamp ruptures. Please have Sharp Authorised LCD Projector Dealer or Service Centre replace lamp if rupture occurs.**
- **Do not remove the lamp cage directly after operation of the projector. The lamp may be extremely hot. Wait at least one hour after the power cord is disconnected to allow the surface of the lamp cage to fully cool before removing the lamp cage.**

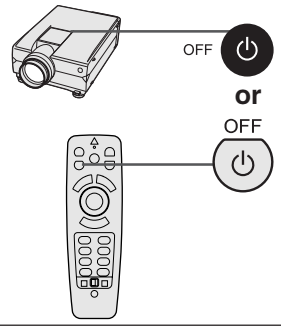
It is recommended that the lamp be replaced after approximately 900 cumulative hours of use or when you notice a significant deterioration of the picture and colour quality. Carefully change the lamp by following the steps below.
If the new lamp does not light after replacement, take your projector to the nearest Sharp Authorised LCD Projector Dealer or Service Centre for repair. Purchase a replacement lamp unit (lamp/cage module) of the current type BQC-XGP10XE/1 from your nearest Sharp Authorised LCD Projector Dealer or Service Centre. Then carefully change the lamp by following the instructions below. If you wish, you may have the lamp replaced at your nearest Sharp Authorised LCD Projector Dealer or Service Centre.

Removing and installing the lamp unit

CAUTION
- Be sure to remove the lamp cage by the handle. Be sure not to touch the glass surface of the lamp cage or the inside of the projector.
- To avoid injury to yourself and damage to the lamp, be sure to carefully follow the steps below.
- Before or after replacing the lamp, be sure to clean the air filters. See page 46 for cleaning the air filters.

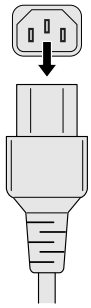
1 Turn off the power.

Press **POWER OFF**. Wait until the cooling fan stops.



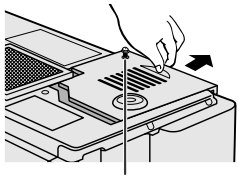
2 Disconnect the power cord.

Unplug the power cord from the AC socket.



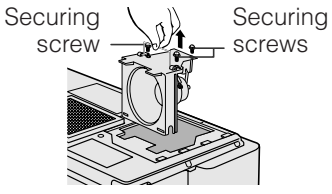
3 Remove the lamp cage cover.

Turn over the projector and loosen the user service screw that secures the lamp cage cover. Then slide the cover in the direction of the arrow.



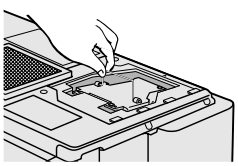
4 Remove the lamp cage.

Remove the securing screws from the lamp cage. Hold the lamp cage by the handle and pull it towards you.



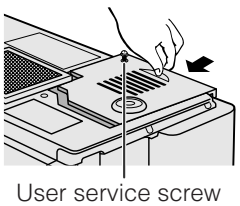
5 Insert the new lamp cage.

Press the lamp cage firmly into the lamp cage compartment. Fasten the securing screws.

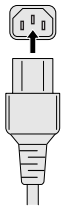
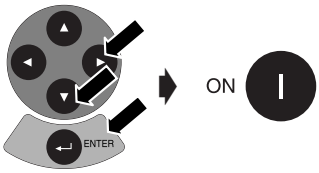


6 Attach the lamp cage cover.

Slide the lamp cage cover in the direction of the arrow. Then tighten the user service screw.



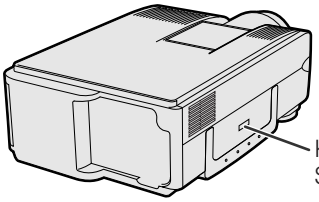
Resetting the lamp timer

1 Connect the power cord.	2 Reset the lamp timer.	
Plug the power cord into the AC socket of the projector.	While pressing ▼, ▶ and **ENTER** on the projector, press **POWER ON** on the projector.	"LAMP 0000H" is displayed, indicating that the lamp timer is reset.
		

NOTE

- Reset the lamp timer only after replacing the lamp.

Using the Kensington Lock

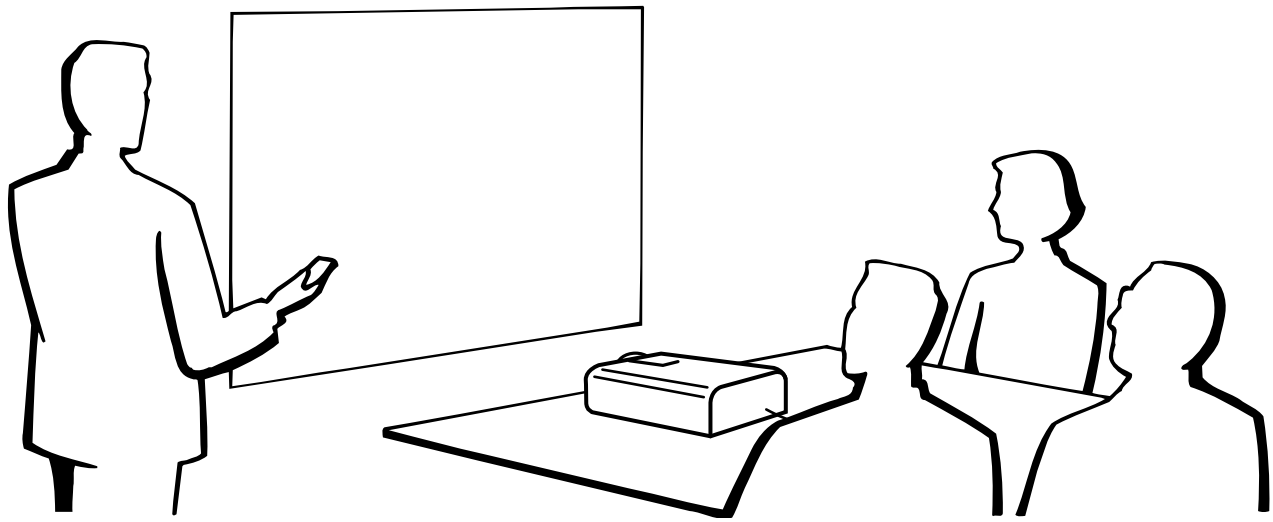


This projector has a Kensington Security Standard connector for use with a Kensington MicroSaver Security System. Refer to the information that came with the system for instructions on how to use it to secure the projector.

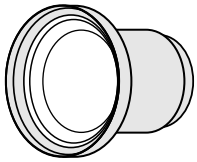
Troubleshooting

Problem	Check
Power cannot be turned on or off using the POWER buttons (ON/OFF) on the projector.	• Keylock level is set to "Level A" or "Level B", preventing operation of some or all buttons (See page 41.)
No picture and no sound.	• Projector power cord is not plugged into the wall outlet. • The bottom filter cover is not securely installed. • Selected input is wrong. (See page 17.) • Cables incorrectly connected to rear panel of the projector. (See pages 11–15.) • Remote control batteries have run down. (See page 8.) • Remote control's MOUSE/ADJUSTMENT switch is set to MOUSE.
Sound is heard but no picture appears.	• Cables incorrectly connected to rear panel of the projector. (See pages 11–15.) • "Contrast" and "Bright" adjustments are set to minimum position. (See page 26.) • On-screen Display ("BLACK SCREEN") is turned off and Black Screen function is turned on, creating a black image. (See page 37.)
Colour is faded or poor.	• "Color" and "Tint" adjustments are not correct. (See page 26.)
Picture is blurred.	• Adjust the focus. (See page 20.) • Projection distance is too long or too short to allow for proper focus. (See page 18.)
Picture appears but no sound is heard.	• Cables incorrectly connected to rear panel of the projector. (See pages 11–15.) • Volume is set to minimum. (See page 17.)
An unusual sound is occasionally heard from the cabinet.	• If the picture is normal, the sound is due to cabinet shrinkage caused by temperature changes. This will not affect operation or performance.
Maintenance indicator lights up.	• Refer to "Lamp/Maintenance Indicators" on page 47.
Picture noise appears.	• Adjust the "Phase" setting. (See page 29.) • Noise may appear when used with certain computers. Set the NOISE FILTER to ON using the RS-232C command. (See pages 52 and 53.)
480P images do not appear.	• Set the resolution mode to 480P. (See page 31.)
Image is pink (no green) on COMPUTER/RGB input. Image is green on COMPONENT input.	• Change the input signal type. (See page 27.)
Lens comes off.	• Align the mark on the lens with the corresponding mark on the projector, push the lens firmly in place, and rotate to the right.

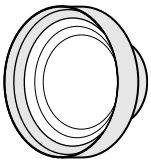
Appendix



Optional Lenses



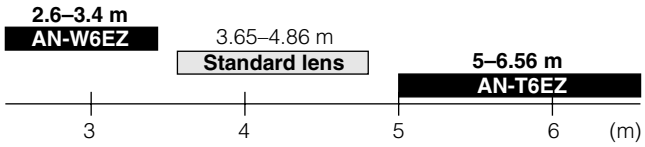
Wide-zoom lens
AN-W6EZ



Tele-zoom lens
AN-T6EZ

Optional wide and telephoto lenses from Sharp are also available for specialised application. Please see your local Sharp Authorised LCD Projector Dealer for details on the AN-W6EZ and AN-T6EZ. (Refer to the lens operation manual when attaching the lens.)

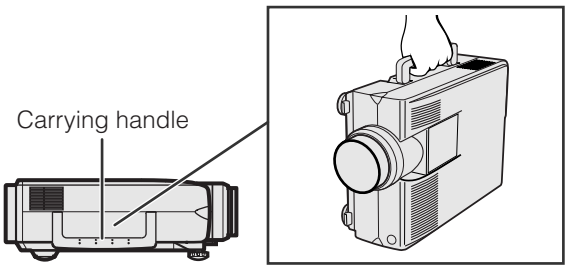
254cm (100″) Screen Project Distance



Transporting the Projector

Using the Carrying Handle

When transporting the projector, carry it by the carrying handle on the side.

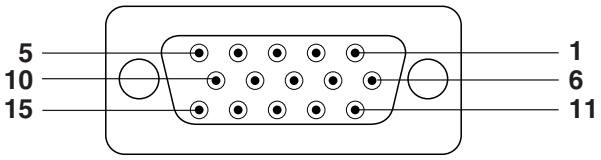


CAUTION

- Always put on the lens cap to prevent damage to the lens when transporting the projector.
- Do not lift or carry the projector by the lens or the lens cap as this may damage the lens.

Connection Pin Assignments

Analog Computer 1 and 2 Signal Input Ports: 15-pin mini D-sub female connector



Computer Input

Analog

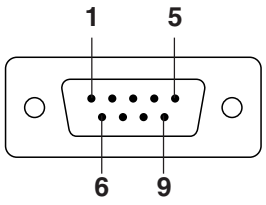
1. Video input (red)
2. Video input (green/sync on green)
3. Video input (blue)
4. Reserve input 1
5. Composite sync
6. Earth (red)
7. Earth (green/sync on green)
8. Earth (blue)
9. Not connected
10. GND
11. GND
12. Bi-directional data
13. Horizontal sync signal
14. Vertical sync signal
15. Data clock

Component Input

Analog

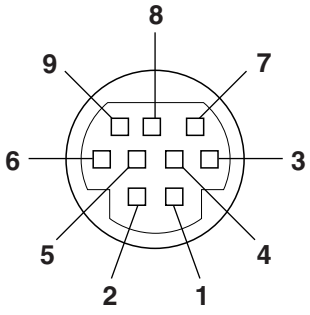
1. P_R (C_R)
2. Y
3. P_B (C_B)
4. Not connected
5. Not connected
6. Earth (P_R)
7. Earth (Y)
8. Earth (P_B)
9. Not connected
10. Not connected
11. Not connected
12. Not connected
13. Not connected
14. Not connected
15. Not connected

RS-232C Port: 9-pin D-sub male connector of the DIN-D-sub RS-232C cable



Pin No.	Signal	Name	I/O	Reference
1	CD			Not connected
2	RD	Receive Data	Input	Connected to internal circuit
3	SD	Send Data	Output	Connected to internal circuit
4	ER			Not connected
5	SG	Signal Ground		Connected to internal circuit
6	DR	Data Set Ready	Output	Not connected
7	RS	Request to Send	Output	Connected to internal circuit
8	CS	Clear to Send	Input	Connected to internal circuit
9	CI			Not connected

RS-232C Terminal: 9-pin Mini DIN female connector



Pin No.	Signal	Name	I/O	Reference
1	VCC	+3.3V (Reserved)	Output	Not connected
2	RD	Receive Data	Input	Connected to internal circuit
3	SD	Send Data	Output	Connected to internal circuit
4	EXIR	Detector of Option Unit (Reserved)	Input	Not connected
5	SG	Signal Ground		Connected to internal circuit
6	ERX	IR Receive Signal from IR Amplifier (Reserved)	Input	Not connected
7	RS	Request to Send	Output	Connected to internal circuit
8	CS	Clear to Send	Input	Connected to internal circuit
9	ETX	IR Transmit Signal (Reserved)	Output	Not connected

RS-232C Port Specifications

PC control

A computer can be used to control the projector by connecting an RS-232C cable (null modem, cross type, sold separately) to the projector. (See page 14 for connection.)

Communication conditions

Set the serial port settings of the computer to match that of the table.

Signal format: Conforms to RS-232C standard.
Baud rate: 9,600 bps
Data length: 8 bits
Parity bit: NON
Stop bit: 1 bit
Flow control: None

Basic format

Commands from the computer are sent in the following order: command, parameter, and return code. After the projector processes the command from the computer, it sends a response code to the computer.

Command format

C1	C2	C3	C4	P1	P2	P3	P4

Command 4-digits Parameter 4-digits

Return code (0DH)

Response code format

Normal response

O	K

Return code (0DH)

Problem response (communication error or incorrect command)

E	R	R

Return code (0DH)

When more than one code is being sent, send each command only after the OK response code for the previous command from the projector is verified.

NOTE

- When using the computer control function of the projector, the projector operating status cannot be read to the computer. Therefore, confirm the status by transmitting the display commands for each adjustment menu and checking the status with the On-screen Display. If the projector receives a command other than a menu display command, it will execute the command without displaying the On-screen Display.

Commands

EXAMPLE

- When “BRIGHT” of INPUT 1 IMAGE ADJUSTMENT is set to −10.

Computer										Projector		
R	A	B	R	_	−	1	0	↵	→	O	K	↵
									←			

CONTROL ITEM	COMMAND				PARAMETER				CONTROL CONTENTS
	C1	C2	C3	C4	P1	P2	P3	P4	
POWER SETTING	P	O	W	R	_	_	_	0	POWER OFF (STANDBY)
	P	O	W	R	_	_	_	1	POWER ON
INPUT SWITCHING	I	R	G	B	_	_	_	1	INPUT1
	I	R	G	B	_	_	_	2	INPUT2
	I	V	E	D	_	_	_	1	INPUT3 (VIDEO)
INPUT CHECK	I	C	H	K	_	_	_	0	INPUT CHECK
VOLUME ADJUSTMENT	V	O	L	A	_	_	*	*	VOLUME (00 – 60)
	M	U	T	E	_	_	_	0	MUTE OFF
	M	U	T	E	_	_	_	1	MUTE ON
LENS ADJUSTMENT	L	N	F	O	_	*	*	*	LENS FOCUS (−30 – +30)
	L	N	Z	O	_	*	*	*	LENS ZOOM (−30 – +30)
	K	E	Y	S	*	*	*	*	KEYSTONE (−127 – +127)
	L	N	D	S	_	*	*	*	DIGITAL SHIFT (−96 – +96)

CONTROL ITEM	COMMAND				PARAMETER				CONTROL CONTENTS
	C1	C2	C3	C4	P1	P2	P3	P4	
INPUT 1 SIGNAL TYPE SELECTION	I	A	S	I	_	_	_	1	RGB
	I	A	S	I	_	_	_	2	COMPONENT
INPUT 1 I/P CONVERSION	R	A	I	P	_	_	_	0	INTERLACED
	R	A	I	P	_	_	_	1	PROGRESSIVE
INPUT 1 IMAGE ADJUSTMENT	R	A	C	T	_	_	*	*	COLOR TEMPERATURE (−3 – +3)
	R	A	P	I	_	*	*	*	CONTRAST (−30 – +30)
	R	A	B	R	_	*	*	*	BRIGHT (−30 – +30)
	R	A	R	D	_	*	*	*	RED (−30 – +30)
	R	A	B	E	_	*	*	*	BLUE (−30 – +30)
	R	A	C	O	_	*	*	*	COLOR (−30 – +30)
	R	A	T	I	_	*	*	*	TINT (−30 – +30)
	R	A	S	H	_	*	*	*	SHARPNESS (−30 – +30)
	R	A	R	E	_	_	_	0	INPUT 1 DISPLAY
	R	A	R	E	_	_	_	1	RESET

CONTROL ITEM	COMMAND				PARAMETER				CONTROL CONTENTS
	C1	C2	C3	C4	P1	P2	P3	P4	
INPUT2 SIGNAL TYPE SELECTION	I	B	S	I	_	_	_	1	RGB
	I	B	S	I	_	_	_	2	COMPONENT
INPUT2 I/P CONVERSION	R	B	I	P	_	_	_	0	INTERLACED
	R	B	I	P	_	_	_	1	PROGRESSIVE
INPUT 2 IMAGE ADJUSTMENT	R	B	C	T	_	_	*	*	COLOR TEMPERATURE (−3 – +3)
	R	B	P	I	_	*	*	*	CONTRAST (−30 – +30)
	R	B	B	R	_	*	*	*	BRIGHT (−30 – +30)
	R	B	R	D	_	*	*	*	RED (−30 – +30)
	R	B	B	E	_	*	*	*	BLUE (−30 – +30)
	R	B	C	O	_	*	*	*	COLOR (−30 – +30)
	R	B	T	I	_	*	*	*	TINT (−30 – +30)
	R	B	S	H	_	*	*	*	SHARPNESS (−30 – +30)
	R	B	R	E	_	_	_	0	INPUT 2 DISPLAY
	R	B	R	E	_	_	_	1	RESET
INPUT 3 (VIDEO) I/P CONVERSION	V	A	I	P	_	_	_	0	INTERLACED
	V	A	I	P	_	_	_	1	PROGRESSIVE
INPUT 3 (VIDEO) IMAGE ADJUSTMENT	V	A	C	T	_	_	*	*	COLOR TEMPERATURE (−3 – +3)
	V	A	P	I	_	*	*	*	CONTRAST (−30 – +30)
	V	A	B	R	_	*	*	*	BRIGHT (−30 – +30)
	V	A	C	O	_	*	*	*	COLOR (−30 – +30)
	V	A	T	I	_	*	*	*	TINT (−30 – +30)
	V	A	S	H	_	*	*	*	SHARPNESS (−30 – +30)
	V	A	R	D	_	*	*	*	RED (−30 – +30)
	V	A	B	E	_	*	*	*	BLUE (−30 – +30)
	V	A	R	E	_	_	_	0	VIDEO DISPLAY
	V	A	R	E	_	_	_	1	RESET
AUDIO ADJUSTMENT	A	A	B	L	_	*	*	*	BALANCE (−30 – +30)
	A	A	T	E	_	*	*	*	TREBLE (−30 – +30)
	A	A	B	A	_	*	*	*	BASS (−30 – +30)
	A	A	R	E	_	_	_	0	AUDIO DISPLAY
	A	A	R	E	_	_	_	1	RESET
INPUT AUTO SYNCHRONIZATION	A	A	D	J	_	_	_	0	AUTO SYNC OFF
	A	A	D	J	_	_	_	1	AUTO SYNC ON
	A	D	J	S	_	_	_	1	AUTO SYNC START
INPUT ADJUSTMENT	I	N	C	L	*	*	*	*	CLOCK (−150 – +150)
	I	N	P	H	_	*	*	*	PHASE (−60 – +60)
	I	A	H	P	*	*	*	*	H-POS (−150 – +150)
	I	A	V	P	_	*	*	*	V-POS (−60 – +60)
	I	A	R	E	_	_	_	0	COMPUTER INPUT DISPLAY
	I	A	R	E	_	_	_	1	RESET
SCREEN MODE MEMORY	M	E	M	S	_	_	_	*	SAVE SETTING (1–7)
	M	E	M	L	_	_	_	*	SELECT SETTING (1–7)
BLACK SCREEN	I	M	B	K	_	_	_	0	BLACK SCREEN OFF
	I	M	B	K	_	_	_	1	BLACK SCREEN ON
ON-SCREEN DISPLAY SETTING	I	M	B	O	_	_	_	0	BLACK SCREEN DISPLAY OFF
	I	M	B	O	_	_	_	1	BLACK SCREEN DISPLAY ON
	I	M	D	I	_	_	_	0	OSD DISPLAY OFF
	I	M	D	I	_	_	_	1	OSD DISPLAY ON
	I	M	A	S	_	_	_	0	AUTO SYNC DISPLAY OFF
	I	M	A	S	_	_	_	1	AUTO SYNC DISPLAY ON

CONTROL ITEM	COMMAND				PARAMETER				CONTROL CONTENTS
	C1	C2	C3	C4	P1	P2	P3	P4	
VIDEO SYSTEM SELECTION	M	E	S	Y	_	_	_	1	AUTO
	M	E	S	Y	_	_	_	2	PAL (50/60 Hz)
	M	E	S	Y	_	_	_	3	SECAM
	M	E	S	Y	_	_	_	4	NTSC 4.43
	M	E	S	Y	_	_	_	5	NTSC 3.58
VIDEO CONFIRMATION	S	Y	S	E	_	_	_	0	DISPLAY
BACKGROUND SELECTION	I	M	B	G	_	_	_	1	SHARP
	I	M	B	G	_	_	_	2	CUSTOM
	I	M	B	G	_	_	_	3	BLUE
	I	M	B	G	_	_	_	4	NONE
STARTUP IMAGE SELECTION	I	M	S	I	_	_	_	1	SHARP
	I	M	S	I	_	_	_	2	CUSTOM
	I	M	S	I	_	_	_	3	NONE
AUTO POWER OFF	A	P	O	W	_	_	_	0	AUTO POWER OFF
	A	P	O	W	_	_	_	1	AUTO POWER ON
KEYLOCK	K	E	Y	L	_	_	_	*	LEVEL SETTING (0 – 2)
LANGUAGE SELECTION	M	E	L	A	_	_	_	1	ENGLISH
	M	E	L	A	_	_	_	2	DEUTSCH
	M	E	L	A	_	_	_	3	ESPAÑOL
	M	E	L	A	_	_	_	4	NEDERLANDS
	M	E	L	A	_	_	_	5	FRANÇAIS
	M	E	L	A	_	_	_	6	ITALIANO
	M	E	L	A	_	_	_	7	SVENSKA
	M	E	L	A	_	_	_	8	日本語
	M	E	L	A	_	_	_	9	PORTUGUÊS
	M	E	L	A	_	_	1	0	汉语
	M	E	L	A	_	_	1	1	한국어
INPUT 1/2 GAMMA SELECTION	G	A	M	R	_	_	_	1	STANDARD
	G	A	M	R	_	_	_	2	GAMMA1
	G	A	M	R	_	_	_	3	GAMMA2
	G	A	M	R	_	_	_	4	CUSTOM
INPUT 3 (VIDEO) GAMMA SELECTION	G	A	M	V	_	_	_	1	STANDARD
	G	A	M	V	_	_	_	2	GAMMA1
	G	A	M	V	_	_	_	3	GAMMA2
	G	A	M	V	_	_	_	4	CUSTOM
INPUT 1 RESIZE	R	A	S	R	_	_	_	1	NORMAL
	R	A	S	R	_	_	_	2	WIDE/FIT TO SCREEN
	R	A	S	R	_	_	_	3	DOT BY DOT/NORMAL (WIDE)
INPUT2 RESIZE	R	B	S	R	_	_	_	1	NORMAL
	R	B	S	R	_	_	_	2	WIDE/FIT TO SCREEN
	R	B	S	R	_	_	_	3	DOT BY DOT/NORMAL (WIDE)
INPUT 3 (VIDEO) RESIZE	R	A	S	V	_	_	_	1	NORMAL
	R	A	S	V	_	_	_	2	WIDE
	R	A	S	V	_	_	_	3	NORMAL (WIDE)
SCREEN SETTING	I	M	R	E	_	_	_	0	REVERSE OFF
	I	M	R	E	_	_	_	1	REVERSE ON
	I	M	I	N	_	_	_	0	INVERT OFF
	I	M	I	N	_	_	_	1	INVERT ON
NOISE FILTER	N	F	I	L	_	_	_	0	FILTER OFF
	N	F	I	L	_	_	_	1	FILTER ON

NOTE

- If an underbar (_) appears in the parameter column, enter a space. If an asterisk (*) appears, enter a value in the range indicated in brackets under CONTROL CONTENTS.
- INPUT ADJUSTMENT can only be set in the displayed computer mode.
- Noise may appear when used with certain computers. Set the NOISE FILTER to ON using the RS-232C command.

Wired Remote Control Terminal Specifications

Specifications of wired remote control input

- ø3.5 mm minijack
- External: +5 V (1 A)
- Internal: GND

Function and transmission codes

No.	Control Item	System Code					Data Code						External Code			
	(Function)	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15
1	POWER ON	1	0	1	1	0	0	1	1	0	1	0	1	0	1	0
2	POWER OFF	1	0	1	1	0	0	1	1	0	1	0	0	1	1	0
3	VOLUME −	1	0	1	1	0	1	0	1	0	1	0	0	0	1	0
4	VOLUME +	1	0	1	1	0	0	0	1	0	1	0	0	0	1	0
5	MUTE	1	0	1	1	0	1	1	1	0	1	0	0	0	1	0
6	MENU	1	0	1	1	0	0	0	1	0	0	0	1	1	1	0
7	LENS	1	0	1	1	0	1	1	0	1	0	0	0	1	1	0
8	TOOLS	1	0	1	1	0	0	1	0	1	0	1	1	1	1	0
9	BLACK SCREEN	1	0	1	1	0	1	0	0	1	0	1	1	0	1	0
10	ENTER	1	0	1	1	0	1	1	1	0	1	0	1	0	1	0
11	UNDO	1	0	1	1	0	1	0	0	1	1	0	1	0	1	0
12	INPUT	1	0	1	1	0	1	1	0	0	1	0	0	0	1	0
13	FREEZE	1	0	1	1	0	1	0	1	1	0	0	0	1	1	0
14	ENLARGE	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0
15	AUTO SYNC	1	0	1	1	0	0	1	0	1	1	1	1	1	1	0
16	ADJUST ▲	1	0	1	1	0	0	0	1	1	1	0	0	1	1	0
17	ADJUST ▼	1	0	1	1	0	1	0	1	1	1	0	0	1	1	0
18	ADJUST ◀	1	0	1	1	0	0	0	0	0	1	0	1	0	1	0
19	ADJUST ▶	1	0	1	1	0	1	1	1	1	0	0	1	0	1	0
20	RESIZE	1	0	1	1	0	0	1	1	1	1	0	1	0	1	0
21	GAMMA	1	0	1	1	0	0	0	0	0	0	0	1	0	1	0

NOTE

- To operate the mouse, left-click and right-click functions through the wired remote control input, connect the cable from the WIRED REMOTE control input terminal on the projector to the remote control. The codes for these functions are complex and are, therefore, not listed here.

Wired remote control function code

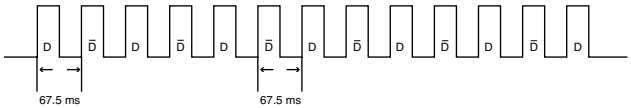
LSB MSB

C1 ⟵ System Code ⟶ C5					C6 ⟵ Data Code ⟶ C13								C14	C15
1	0	1	1	0	*	*	*	*	*	*	*	*	1	0

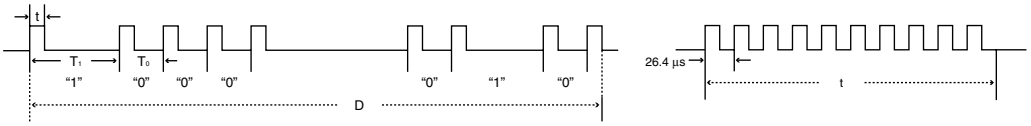
- System codes C1 to C5 are fixed at “10110”.
- Codes C14 and C15 are reverse confirmation bits, with “10” indicating “Front” and “01” indicating “Rear”.

Sharp remote control signal format

Transmission format: 15-bit format



Wave form of output signal: Output using Pulse Position Modulation



- t = 264 µs
- T_0 = 1.05 ms
- T_1 = 2.10 ms
- Pulse carrier frequency = 455/12 kHz
- Duty ratio = 1:1

Transmission control code

15 bit

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15
System Address					Function Key Data Bit						Data Expansion		Mask	Data Determination
D to D̄ Common Data Bit					Reverse in D̄									

Example of Reverse D to D̄

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15
D	1	0	1	1	0	1	0	0	0	0	0	0	0	1	0
D̄	1	0	1	1	0	0	1	1	1	1	1	1	1	0	1

Computer Compatibility Chart

Horizontal Frequency: 15–126 kHz
Vertical Frequency: 43–200 Hz
Pixel Clock: 12–230 MHz*
Compatible with sync on green and composite sync signals
UXGA (1,600 × 1,200) compatible in advanced intelligent compression
AICS (Advanced Intelligent Compression and Expansion System) resizing technology

PC/ MAC/ WS	Resolution		Horizontal Frequency (kHz)	Vertical Frequency (Hz)	VESA Standard	Display
PC	VGA	640 × 350	27.0	60		Upscale
			31.5	70		
			37.9	85	×	
		720 × 350	27.0	60		
			31.5	70		
		640 × 400	27.0	60		
			31.5	70		
			37.9	85	×	
		720 × 400	27.0	60		
			31.5	70		
			37.9	85	×	
		640 × 480	26.2	50		
			31.5	60	×	
			34.7	70		
			37.9	72	×	
			37.5	75	×	
			43.3	85	×	
			47.9	90		
			53.0	100		
			61.8	120		
			78.5	150		
			80.9	160		
			100.4	200		
	SVGA	800 × 600	31.4	50		
			35.1	56	×	
			37.9	60	×	
			44.5	70		
			48.1	72	×	
			46.9	75	×	
			53.7	85	×	
			56.8	90		
			64.0	100		
			77.2	120		
			98.3	150		
			102.1	160		
			125.6	200		
	XGA	1,024 × 768	35.5	43	×	True
			40.3	50		
			56.5	70	×	
			58.1	72		
			68.7	85	×	
			73.5	90		
			77.2	96		
			80.6	100		
			98.8	120		
			113.2	140		
			125.6	150		

PC/ MAC/ WS	Resolution		Horizontal Frequency (kHz)	Vertical Frequency (Hz)	VESA Standard	Display
PC	SXGA	1,152 × 864	54.3	60		Advanced Intelligent Compression
			64.0	70		
			64.1	72		
			67.5	75	×	
			75.7	80		
			77.3	85		
			90.2	100		
			111.1	120		
		1,152 × 882	54.8	60		
			65.9	72		
			67.4	74		
		1,280 ×1,024	64.0	60	×	
			74.6	70		
			78.1	74		
			75.7	75		
			91.1	85	×	
			108.4	100		
	UXGA	1,600 ×1,200	74.7	52		
			75.0	60	×	
			81.3	65	×	Intelligent Compression
			87.5	70	×	
			90.1	72		
			93.8	75	×	
			106.3	85	×	
PC/ MAC 13"	VGA	640 × 480	34.9	67		Upscale
PC/ MAC 19"	XGA	1,024 × 768	48.4	60	×	True
			60.0	75	×	
PC/ MAC 21"	SXGA	1,280 ×1,024	80.0	75	×	Advanced Intelligent Compression
MAC 16"	SVGA	832 × 624	46.8	75		Upscale
			49.6	75		
MAC 21"	SXGA	1,152 × 870	68.5	75		Advanced Intelligent Compression
HP (WS)	SXGA	1,280 ×1,024	78.1	72		
PC (WS)		1,280 × 960	60.0	60	×	
WS			85.9	85		
SGI (WS)		1,280 ×1,024	53.5	50		
			76.8	72		
SUN (WS)		1,152 × 900	60.9	66		
			71.9	76		

NOTE

- This projector may not be able to display images from notebook computers in simultaneous (CRT/LCD) mode. Should this occur, turn off the LCD display on the notebook computer and output the display data in "CRT only" mode. Details on how to change display modes can be found in your notebook computer's operation manual.
- This projector can receive 640 × 350 VESA format VGA signals, however, "640 × 400" will appear on the screen.
- When receiving 1,600 × 1,200 VESA format UXGA signals, sampling occurs and the image is displayed with 1,024 lines, causing part of the image to be blocked.

Specifications

Product type	LCD Projector
Model	XG-P10XE
Video system	PAL/SECAM/NTSC 3.58/NTSC 4.43/DTV 480P/DTV 720P/DTV 1080I
Display method	LCD panel × 3, RGB optical shutter method
LCD panel	Panel size: 33mm (1.3″) (20.0 [H] × 26.6 [W] mm) Display method: Translucent TN liquid crystal panel Drive method: TFT (Thin Film Transistor) Active Matrix panel No. of dots: 786,432 dots (1,024 [H] × 768 [V])
Lens	1–1.3× zoom lens, F1.7–2.3, f = 49.1–63.8 mm
Projection lamp	200 W UHP lamp
Contrast ratio	250:1
Video input signal	RCA Connector: VIDEO, composite video, 1.0 Vp-p, sync negative, 75 Ω terminated RCA Connector: AUDIO, 0.5 Vrms more than 22 kΩ (stereo)
S-video input signal	4-pin Mini DIN connector Y (luminance signal): 1.0 Vp-p, sync negative, 75 Ω terminated C (chrominance signal): Burst 0.286 Vp-p, 75 Ω terminated
Component input signal	BNC Connector (INPUT 1) Y: 1.0 Vp-p, sync negative, 75 Ω terminated P_B: 0.7 Vp-p, 75 Ω terminated P_R: 0.7 Vp-p, 75 Ω terminated
Horizontal resolution	520 TV lines (video input), 750 TV lines (DTV 720P input, Dot by Dot)
Audio output	2 W + 2 W (stereo)
Computer RGB input signal	15-PIN MINI D-SUB CONNECTOR (INPUT 1, 2), 5 BNC CONNECTOR (INPUT 1): RGB separate/composite sync/sync on green type analog input: 0–0.7 Vp-p, positive, 75 Ω terminated STEREO MINIJACK: AUDIO, 0.5 Vrms, more than 22 kΩ (stereo) HORIZONTAL SYNC. SIGNAL: TTL level (positive/negative) or composite sync (Apple only) VERTICAL SYNC. SIGNAL: Same as above
Pixel clock	12–230 MHz
Vertical frequency	43–200 Hz
Horizontal frequency	15–126 kHz
Computer control signal	9-pin Mini DIN female connector (RS-232C Input Port)
Speaker system	5 cm (1 31/32″) round × 2
Rated voltage	AC 110–120/220–240 V
Input current	3.2 A/1.6 A
Rated frequency	50/60 Hz
Power consumption	300 W
Operating temperature	+5°C to +40°C
Storage temperature	−20°C to +60°C
Cabinet	Plastic
I/R carrier frequency	38 kHz
Laser pointer of remote control	Wave length: 650 nm / Max. output: 1 mW / Class II Laser Product
Dimensions (approx.)	261 × 139 × 356 mm (W × H × D) (main body only) 261 × 156 × 411.5 mm (W × H × D) (including adjustment feet and projecting parts)
Weight (approx.)	7.3 kg
Supplied accessories	Remote control, Two AA size batteries, Power cord (1.8 m), Computer RGB cable (3 m), Computer audio cable (3 m), Three BNC-RCA adaptors, PS/2 mouse control cable (1 m), USB mouse control cable (1.5 m), DIN-D-sub RS-232C cable (15 cm), Remote mouse receiver, Extra air filter, Lens cap (attached), CD-ROM, LCD projector operation manual, LCD projector quick references, Sharp Advanced Presentation Software operation manual
Replacement parts	Standard lens unit (CLNS-0169CE02), Lamp unit (Lamp/cage module) (BQC-XGP10XE/1), Remote control (RRMCG1590CESA), AA size batteries, Power cord, Computer RGB cable (QCNW-5304CEZZ), Computer audio cable (QCNW-4870CEZZ), BNC-RCA adaptors (QPLGJ0107GEZZ), PS/2 mouse control cable (QCNW-5113CEZZ), USB mouse control cable (QCNW-5680CEZZ), DIN-D-sub RS-232C cable (QCNW-5288CEZZ), Remote mouse receiver (RUNTK0673CEZZ), Air filter (PFILD0088CEZZ), Lens cap (PCAPH1056CESA), CD-ROM (UDSKA0026CEN1), LCD projector operation manual (TINS-7068CEZZ), LCD projector quick references (TINS-7070CEZZ, TINS-7171CEZZ, TINS-7172CEZZ), Sharp Advanced Presentation Software operation manual (TINS-7069CEZZ)

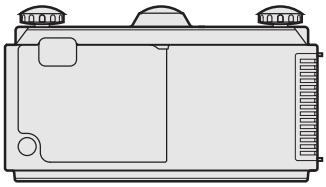
This SHARP projector uses LCD (Liquid Crystal Display) panels. These very sophisticated panels contain 786,432 pixels (× RGB) TFTs (Thin Film Transistors). As with any high technology electronic equipment such as large screen TVs, video systems and video cameras, there are certain acceptable tolerances that the equipment must conform to.

This unit has some inactive TFTs within acceptable tolerances which may result in illuminated or inactive dots on the picture screen. This will not affect the picture quality or the life expectancy of the unit.

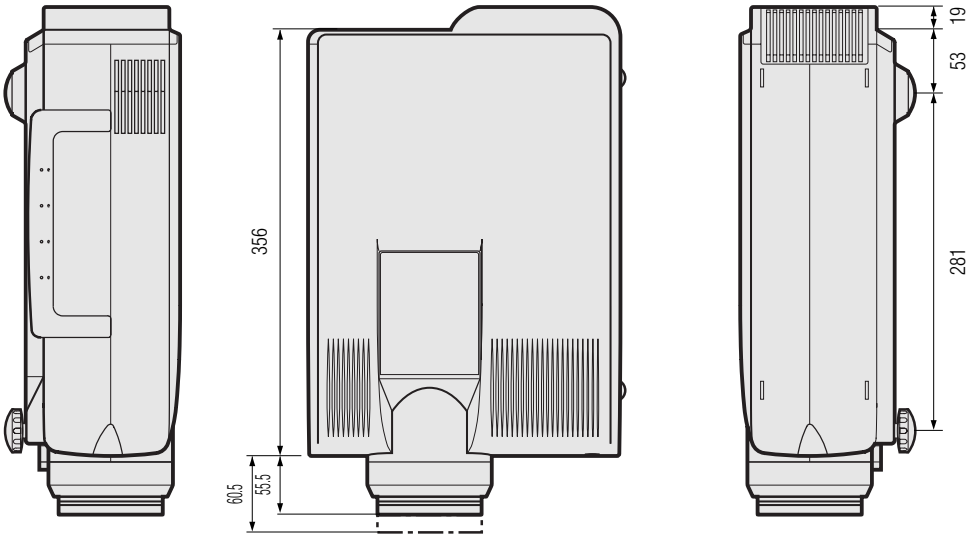
Specifications are subject to change without notice.

Dimensions

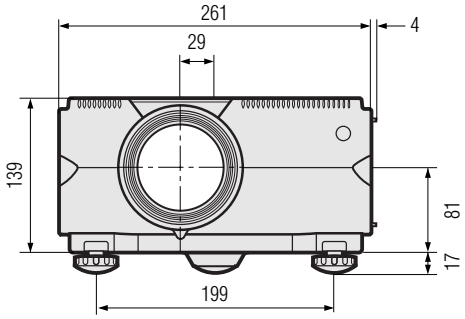
Rear View



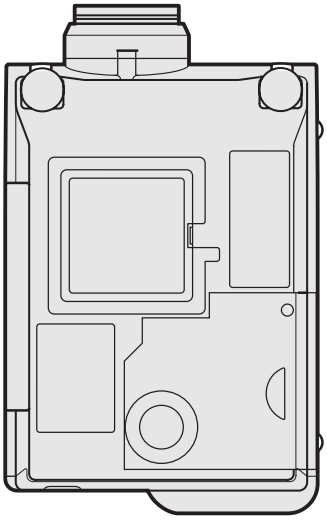
Top View



Side View



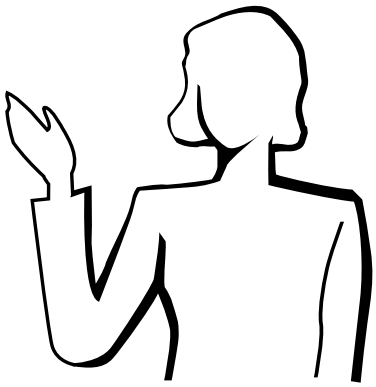
Front View

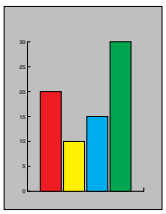


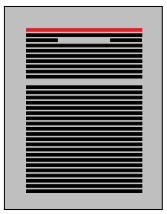
Bottom View

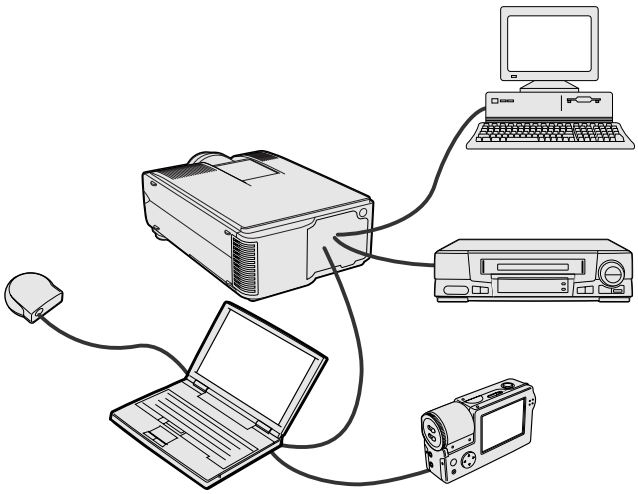
Units: mm

Guide to Effective Presentations









Yellow
on Black

Electronic presentations are one of the most effective tools presenters can use to persuade an audience. There are several ways to enhance your presentation and maximise your effectiveness. The following are guidelines to help you create and deliver a dynamic presentation.

a. Types of Presentations

Computer Presentations

- To present basic information such as graphs, spreadsheets, documents and images, use word processing and spreadsheet applications.
- To convey more complex information and create more dynamic presentations which allow you to control the pace of your delivery, utilise software such as Astound®, Freelance®, Persuasion® or PowerPoint®.
- For high-end multimedia and interactive presentations, use software such as Macromedia Director®.

NOTE

- Astound®, Freelance®, Persuasion®, PowerPoint® and Macromedia Director® are trademarks of their respective companies.

Video Presentations

Use of video equipment, such as a VCR, DVD player and laser disc player, can be effective for delivering instructional or illustrative information that is difficult to present.

Digital Cameras and Personal Digital Assistants (PDAs)

For highly compact and portable presentations, digital still cameras, digital video cameras, document cameras and PDAs are ideal for transferring data without cumbersome conversions.

Multimedia Presentations

You can integrate all of the above methods for a full multimedia presentation including video, audio, computer applications and World Wide Web information.

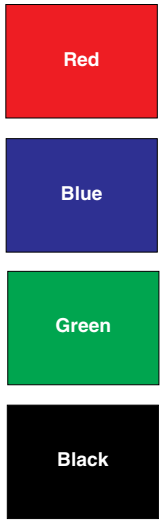
b. Creative Presentations

Oftentimes presenters do not take advantage of the many subtle ways they can manipulate their electronic slides to more effectively persuade the audience.

Colour has a great effect on the audience during a presentation. When used correctly and legibly, studies show that background and foreground colours establish an emotional tone for a presentation, help viewers understand and retain information, and influence an audience to take a desired course of action.

Colour Considerations

- Choose legible colours.
- Text and graphics colours need sufficient contrast.
- Use darker colours for the background since a lighter background can create uncomfortable glare. (Yellow on black creates an ideal contrast.)



- Background colours can subconsciously affect the audience:

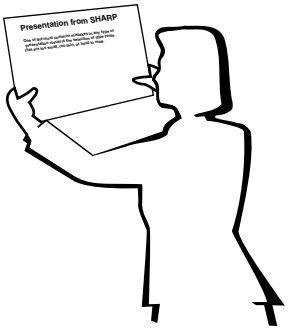
Red—increases viewers' pulse and breathing and encourages risk taking but can also be associated with financial loss.

Blue—has a calming and conservative affect on the audience but can also create boredom among corporate audiences that are often inundated with this background colour.

Green—stimulates interaction.

Black—conveys finality and certainty. Use it as a transitional colour between slides when moving from one idea to another.

- Foreground colours create a major impact on how well an audience understands and remembers a message.
  - Use one or two bright colours for emphasis.
  - Highlight important messages.
- The eye has a difficult time reading certain coloured text on certain coloured backgrounds. For example, text and background colours in red and green, and blue and black make for difficult viewing.
- Colourblind individuals may find it difficult to distinguish between red and green, brown and green, and purple and blue. Avoid using these colours together.



Fonts

- One of the most common mistakes in any type of presentation visual is the selection of type fonts that are too small, too thin, or too difficult to read.

- If you are not sure how well a given font will read on a screen at various sizes, try this: Draw a 15cm × 20cm box on a piece of paper and print out several lines of text inside the box with your computer printer at 300 or 600 dpi resolution. Vary the sizes of text to simulate headline, body and text call-outs for any charts or graphs. Hold the printout at arm's length. This is how your text will look on a 1.2 meter-wide screen at 3 meters, on a 2.3 meter-wide screen at 6.1 meters and a 3.7 meter-wide screen at 9.1 meters. If you cannot read the text easily, you should put less copy on your visuals or use larger typefaces.

- Design your visuals so that they are visible by the viewer in the last row.

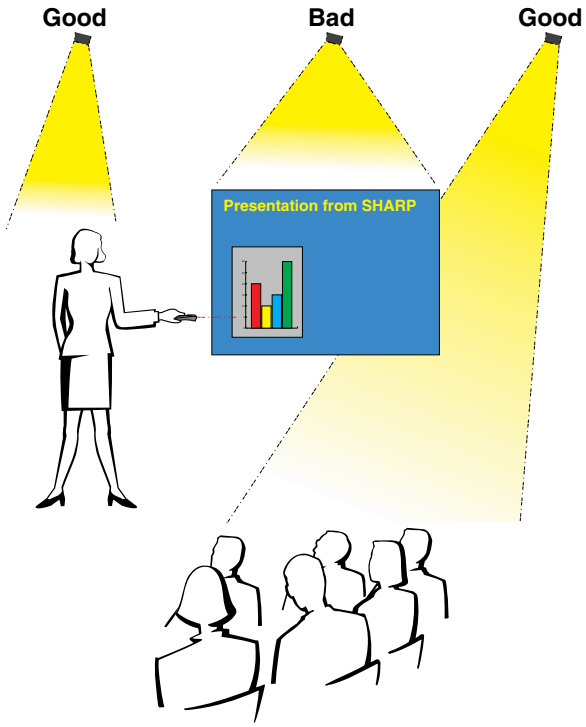
- Nothing will ruin your presentation faster than misspelled words. Take the time to proofread and edit your work before your visuals become a permanent part of your presentation.

- Mixed case text is easier to read than text which is displayed in capital letters.

- Another important attribute of fonts is whether any particular face is serif or sans-serif. Serifs are small, usually horizontal cross strokes that are added to the end of a letter's main strokes. Because of their ability to coax the eye along the line of type, fonts with serifs are generally acknowledged to be more readable.

Sans-serif

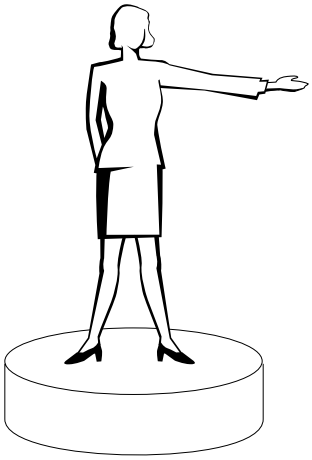
Serif



c. Set-Up

When giving a presentation, you need to set the stage both figuratively and literally for success. The way you set up a presentation room will have a great impact on the audience's perception of you and your message. By manipulating the placement and use of the following tools, you will improve the impact of your presentation.

Lighting—Good lighting is an important component of a successful presentation. You should strive to create an unequal distribution of light. An audience should always see as much of the presenter's face as possible, so most of the light should be focused on you. Because it is important for you to be able to read the audience's faces and body language, some light should be shed upon them. However, no light should shine on the screen.

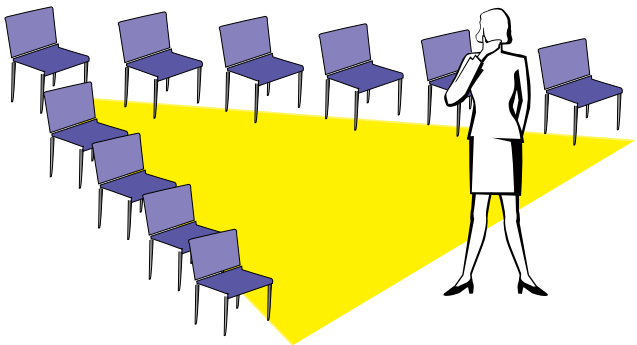


Stage— When presenting on the same level surface that your audience is on, most people can only see the top one-third of your body. Therefore, it is recommended that when giving a presentation to an audience of 25 or more, you stand on a stage or platform. As more of your body is visible, the easier it is to communicate with an audience.

Podiums—The best presenters avoid podiums because they hide 75% of the body and restrict movement. However, many people feel more comfortable with a podium to hold their notes and hide their discomfort. If you must use a podium, angle it at 45 degrees to the audience so that you are not completely hidden.

Visuals—It is imperative that you make sure your visuals are large enough and projected far enough for the audience to see. Eight times the height of an image is the optimal viewing distance to read 24 point type. The bottom of a screen should be at least 1.8 meters above the floor.

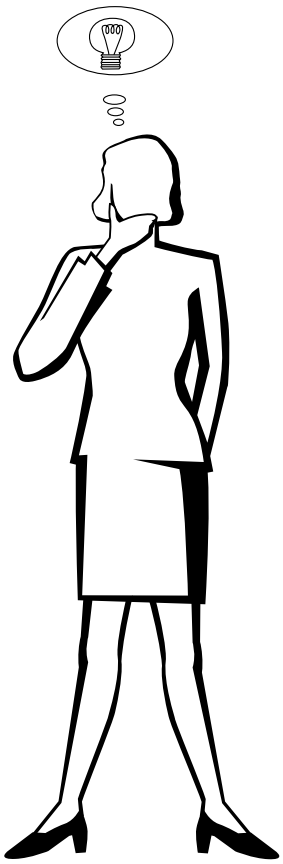
Screen—The screen should always be in the centre of the room so that all audience members can see it. Because people read from left to right, you should always stand to the audience's left when discussing visuals.



Seating—Arrange seating according to the dynamics of your presentation. If the presentation is more than half-a-day, use classroom style seating—a chair and a desk. If you would like to encourage audience interaction, use chevron seating, angling the chairs into a "V" shape. When you have a very small audience, a "U" shaped arrangement will increase interchange.

d. Rehearsing & Delivery

- The best time to rehearse is the day or evening before, not a couple of hours before, and the best place to rehearse is in the actual room. Rehearsing a speech in a small office is not the same as standing up in front of 100 people in a hotel ballroom or classroom.
- Due to varying processor speeds of computers, practice your slide transitions for proper timing.
- Whenever possible, set up your equipment well in advance to allow adequate time to resolve any unexpected issues such as lighting, power, seating and audio.
- Thoroughly check every piece of equipment you bring along. Make sure you have fresh batteries in your remote controls and laptop computer. Fully charge your computer's battery before the presentation and connect your AC adaptor for added safety.
- Make sure you are completely familiar with the control panel on your projector and remote controls.
- If you are using a microphone, check it out before hand and walk around to see where you might have problems with feedback. Avoid standing in these problem areas during your presentation.



e. Presentation Tips

- Before beginning, visualise yourself delivering an outstanding presentation.
- Know your speech, memorising at least the first three minutes of your presentation will allow you to focus on your rhythm and pacing.
- Speak to early arrivals to help you build a rapport with the audience and make you feel more comfortable.
- Do not be overly dependent on your visuals by reciting what your audience is already reading. Know your material well enough to be able to deliver the presentation with ease. Use your visuals to emphasise keypoints.
- Be sure to project your voice clearly and use eye contact to maintain audience attention.
- Do not wait until halfway through your presentation to get your point across. If you wait and try to create a "build-up", you may lose some of your audience along the way.
- Keep your audience's attention. As most people only focus for 15 to 20 minutes during a one-hour presentation, it is important to recapture their attention periodically. Use phrases like, "This is critical to my point" or "This is absolutely fundamental" to remind them you are saying something they need to hear.

Glossary

Anti-aliasing digital keystone correction
Function to digitally correct a distorted image when the projector is set up at an angle.

Aspect ratio
Width and height ratio of an image. The normal aspect ratio of a computer and video image is 4 : 3. There are also wide images with an aspect ratio of 16 : 9 and 21 : 9.

Auto sync
Optimises projected computer images by automatically adjusting certain characteristics.

Background
Initial setting image projected when no signal is being input.

Clock
Clock adjustment is used to adjust vertical noise when clock level is incorrect.

Compatibility
Ability to use with various image signal modes.

Composite sync
Signal combining horizontal and vertical sync pulses.

Dot by dot
Mode that projects images in their native resolution.

Fit to screen
Function to adjust an image without a 4 : 3 aspect ratio, and project it in a 4 : 3 ratio.

Freeze
Function to freeze a moving image.

GUI
Graphical User Interface. User interface with graphics that allow easier operation.

I/P conversion
Function to convert an image between “Interlaced” and “Progressive” scan displays.

Intelligent compression and expansion
High quality resizing of lower and higher resolution images to fit the projector’s native resolution.

Magnification
Digitally zooms in on a portion of an image.

PDF
Portable Document Format. Documentation format used to transfer text and images from the CD-ROM.

Phase
Phase shift is a timing shift between isomorphic signals with the same resolution. When phase level is incorrect, the projected image typically displays horizontal flicker.

Presentation tools
Helpful tools used to emphasise keypoints throughout a presentation.

RS-232C
Function to control the projector from the computer by using the RS-232C ports on the projector and computer.

Startup image
The image displayed when the projector is turned on.

Status function
Displays the settings of each adjustment item.

Sync
Synchronises the resolution and phase shift of two signals. When receiving an image with a resolution different from that of the computer, the projected image may be distorted.

Sync on green
Video signal mode of a computer which overlaps horizontal and vertical sync signal to green colour signal pin.

Wireless mouse
Function to operate the mouse control of a computer with the supplied remote control.

XGA resolution
Resolution with 1,024 × 768 pixels that uses the signal of an IBM/AT compatible (DOS/V) computer.

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